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THE
AFRICAN PILOT,
OR
SAILING DIRECTIONS
FOR THE
WESTERN COAST OF AFRICA.

PART I.

FROM CAPE SPARTEL TO THE RIVER CAMEROONS.

VOL. I.

PUBLISHED BY ORDER OF THE LORDS COMMISSIONERS OF THE ADMIRALTY.

LONDON :
PRINTED FOR THE HYDROGRAPHIC OFFICE, ADMIRALTY ;
AND SOLD BY
J. D. POTTER, *Agent for the Admiralty Charts,*
31 POULTRY, AND 11 KING STREET, TOWER HILL.
1856.

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ADVERTISEMENT.

THE African Pilot, Part I., comprises Sailing Directions for the west coast of Africa, from Cape Spartel to the River Cameroons. They have been compiled from the various remarks made by Rear Admiral Alexander T. E. Vidal, Captains Sir Edward Belcher, Henry M. Denham, and William Allen ; also by Commander T. Boteler, and Lieut. Arlett, R.N., being the officers by whom that part of the coast was surveyed.

To these have been added copious extracts from Remark Books and other documents in the Hydrographic Office, and especially from the observations of Baron Roussin in the years 1817 and 1818 on the coast between Cape Bojador and the Isles de Los.

Part II. will contain Sailing Directions for the west coast, from the River Cameroons to the Cape of Good Hope.

I. W.

Hydrographic Office, Admiralty,

April, 1856.

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ERRATA.

- Page 37, line 1 from top, *for Angelic Hills read Angel Hillocks.*
 „ 64, line 3 from top, *for Juba read Jeba.*
 „ 167, line 20 from top, *for Atakod read Atakoo.*
 „ 169, line 11 from top, in margin, *for Awee read Avey.*
 „ 189, line 10 from top, and in margin, *for Formosa read Formoso.*
 „ 190, line 3 from top *for Formosa read Formoso.*
-

**IN THIS WORK THE BEARINGS ARE ALL MAGNETIC,
EXCEPT WHERE MARKED AS TRUE.**

**THE DISTANCES ARE EXPRESSED IN SEA MILES OF
60 TO A DEGREE OF LATITUDE.**

**A CABLE'S LENGTH IS ASSUMED TO BE EQUAL TO
100 FATHOMS.**

SAILING DIRECTIONS,

&c.

CHAPTER I.

FROM CAPE SPARTEL TO CAPE BOJADOR.

1. THE description of the coast of West Africa naturally begins *Cape Spartel*. with Cape Spartel, it being the N.W. extremity of the continent as well as of the Empire of Morocco.* It stands in $35^{\circ} 47' N.$ and $5^{\circ} 54' 40'' W.$, and its summit, which is composed of sand-stone, rises with a gradual slope to 1040feet above the level of the sea. It is said that, in the bight to the southward of the cape, there is a large cavern in which good mill-stones are quarried.

At half a cable's length from the cape, there are a few craggy rocks, with 10 fathoms close to, and without any danger that is not visible, so that the largest ships may fearlessly approach it within less than a mile. At the distance of 3 miles there are 98 fathoms, from whence the bank immediately breaks down beyond the reach of a common deep-sea line. The cape may be seen 5 or 6 leagues in clear weather, when it makes like an island ; but nearer in, it has an uneven appearance, showing several small hummocks on its western ridge.

A ship from the westward, when bound through the Strait of Gibraltar, should generally endeavour to make Cape Spartel, the access to which is so safe, as she will thereby avoid the dangerous shoals that line the opposite coast of Spain, and it should always be her landfall if going to Tangier or through the strait.

A short description now of Tangier, though not exactly upon *Tangier*. the western coast, will be useful to any ships that may eventually be employed in cruising off that coast, as water and refreshments are readily procured there, and as it holds a constant communication with Gibraltar.

* See Chart of West Coast of Africa, Sheet i.

Cape Spartel. 2. From Cape Spartel to Tangier Bay, a distance of $5\frac{1}{2}$ miles, the shore is high and clean, though close in it is bordered with rocks and without any beach as far as Freylecito Point, where a small sandy bay begins, and into which the little river Judios empties itself.

Freylecito Point. Kasbah Point is nearly a mile farther to the eastward, and from thence the ground is foul all the way to Tangier, but extending no distance from the shore, it leaves a perfectly safe passage between it and the Pacifico Rock, which lies a long mile north of Tangier Point. A reef projects to the eastward from the latter point 3 or 4 cables' lengths, and is apparently the ruins of an ancient pier ; the adjacent ground is gravel and small stones.

Pacifico Rock. *Tangier Point and Reef.* *Malabata Reef.* From Cape Malabata, which is $3\frac{1}{4}$ miles east of the Point of Tangier, a reef stretches to the westward ; and about a mile N. b. W. from the tower on that cape, there is a rock called the Almirante, on which H.M.S. Excellent struck ; it is very small, carries $3\frac{1}{2}$ fathoms water, with 5 or 6 fathoms close round it, and bears from the Point of Tangier, E.N.E. $\frac{1}{4}$ E. distant $3\frac{1}{4}$ miles. Good clearing marks for each of these dangers are much wanted.

Almirante Rock. *Tangier Bay.* 3. Tangier Bay is formed between Tangier Point and Cape Malabata, and is about a mile and a half deep.* It affords convenient anchorage for vessels of all sizes opposite the town in from 7 to 12 fathoms, sandy bottom, but exposed to all winds from N.W. round to east. On the eastern side of the bay, there are some rocks called Zandovin Ledge, which bear S.E. b. E. $\frac{3}{4}$ E. from Tangier Point, and W.S.W. nearly 2 miles from Cape Malabata. Europa Point in one with the cape E.N.E. $\frac{1}{4}$ E. clears them, and therefore the anchorage in the bay must always be taken with Europa Point open of that cape. Large vessels may moor about N.W. and S.E. ; and it is said that the best anchorage is about a mile S.E. b. E. from Tangier Point in 9 or 10 fathoms.

Zandovin Ledge.

The town of Tangier stands on the western side of the bay, along which it extends to the point, and is surrounded by a wall with a few guns. The landing-place is about midway between the point and the S.E. part of the town.

Bank of Soundings Southward of Cape Spartel.

4. It has been already stated that the bank with 98 fathoms at its edge extends only 3 miles to the westward from Cape Spartel, but immediately to the southward of the cape it ra-

* See Plan.

pidly increases its breadth to about 14 miles, and then the 100 fathoms' line continues nearly parallel to the shore for a considerable distance. On this bank there is clean tough sandy anchorage ground at 2 or 3 miles from the beach, in what is called *Jeremias Bay*; and though its depth is great, being from 28 to 35 fathoms, yet ships frequently avail themselves of it during the fiery levanters which sweep through the Gut of Gibraltar. Further out there is a ridge of foul ground with only 25 fathoms, and vessels should be careful not to drop an anchor there.

Jeremias Anchorage.

To Arzila, which is distant 19 miles from Cape Spartel, the coast is nearly straight in a S.W. $\frac{3}{4}$ S. direction; and with the exception of a few rocky projections, presents a clean sandy beach with a line of low hills, which, from the distance of half a mile inland, slope gradually to the beach. Thirteen miles farther inland there is a range of very conspicuous mountains, the loftiest of which, called *Jebel Habib*, is about 3000 feet above the level of the sea. Another peak, to which, for want of knowing the Moorish name, that of Mount Raven was given, lies 6 miles further to the northward and 10 miles inland, and is about 2200 feet high. Just to the north of the town of Arzila there is a castle built by the Portuguese, but now in ruins. Date trees, which overtop the walls, are growing in the court. On the wall fronting the sea, and which is strengthened by three towers apparently of more recent date, there are 20 guns mounted. Under the southern angle of the wall the well whitewashed tomb of a Mohammedan saint contrasts singularly with the mouldering ruins adjoining. The country in the neighbourhood of the town is well wooded, and much land is laid out in gardens.

Jebel Habib.

Mount Raven.

Arzila.

There is good anchorage on this part of the coast; H.M.S. *Dido* anchored, in March 1838, in 15 fathoms, on a bottom of sand and small shells at $1\frac{1}{2}$ miles from shore, with the town of Arzila bearing S. b. W. $\frac{3}{4}$ W. 5 miles; but further to the southward, in 13 fathoms, coral rock will be found mixed with gravel, when the centre of Arzila town bears S. $\frac{1}{2}$ E. $2\frac{1}{2}$ miles. There is said to be a mackerel fishery about this part of the coast, on which 20 or 30 Spanish and Portuguese feluccas are employed during the fishing season.

General Anchorage.

Mackerel Fishery.

5. From Arzila the coast continues in the direction of

S.W. $\frac{1}{4}$ S., and presents nearly the same appearances. At 4 miles south of that place the outer hills rise to about 700 feet. Five miles farther, Haffat-el-Beida, or the White Cliff, which stands about 300 feet above the sea, and presents in all directions the form of a wedge, serves to identify this part of the coast. The face or section of this cliff shows the strata lying at an angle of 70° with the horizon.

El Araish.

6. About 8 miles farther is El Araish, on the steep southern point of the Wad* el Khos, which here meanders through a fertile valley: the sudden bends in the river having probably suggested its Arabic name, El Khos, which means the bow. A large castle on the summit of the hill, a lofty moske, and several towers, give this town from the sea an imposing appearance, which, however, soon vanishes on approaching it. The environs are laid out in gardens, from whence the town derives its name (El Araish, signifying a pleasure garden), but they are in a very wild uncultivated state, though there is a population of 2000 persons, besides a garrison of 500 soldiers.

Bar.

Tides.

There are between 5 and 6 feet water on the bar in the entrance of the river at low water, with a rise and fall of from 9 to 12 feet: it is high water at full and change at 1h. 30m.: inside the bar the water deepens to 24 feet. To enter the river, bring the south point of the entrance to bear E. $\frac{1}{2}$ N.; steer in this direction till across the bar, then passing the point as closely as possible, get into the mid-channel till abreast of the pier. The river there takes an abrupt turn to the northward, and in this bend vessels moor. The best anchorage in the outer road for vessels intending to enter the river is about a mile off, in 12 fathoms, on a sandy bottom, with a distant conical mountain, called Jebel Sarsar, appearing in the centre of the entrance. The south point of the entrance is in latitude 35° 18' N., longitude 6° 8' W. The pap, or rising ground, on the north side of the river, is 200 feet above the sea.

Jebel Sarsar.

7. About 21 miles to the southward of El Araish we come to the outlet of a stream said to flow from a small inland lake.

Mamorah.

On the north point of the entrance there are several tombs kept well whitewashed, the chief of which is named after Mulai-Abou-Sallüm. This place is the Mamorah of our old charts

* Wadi or Wad, means a river, or rather the valley through which a river runs.

and maps. Though the coast is straight, there is tolerable anchorage off this river during the summer. Two cables' lengths from the bar of the river there is a depth of 5 fathoms, gradually increasing outwards to 34 fathoms, at 2 miles off shore. The coast between El Araish and this spot is generally about 300 feet in height, with reddish cliffs for the first 10 miles, and then sandhills partly covered with brushwood.

Sixty miles S.W. $\frac{1}{4}$ W. from El Araish, in latitude 34° 18' N. *Mehediyah*. stands the town of Mehediyah, on the lower slope of a hill which rises to the height of 456 feet, and on the southern bank of the Wad Sebou. It is surrounded by walls and has an *Wad Sebou*. apparently strong fort at that angle of the town which faces the entrance of the river ; and another fort on the beach immediately beneath, which was built by the Portuguese. About half the space within the walls is clear of houses, and the population was said not to exceed 400. From the circumstance of the sea being discoloured to a considerable distance from the mouth of the river, it may be inferred that a large body of water is discharged ; but the determined hostility of the inhabitants, who fired on the boats whenever they approached the shore, prevented any examination of either the river or the bar, on which there was less surf, however, than on that of the Wad-el-Khos. There is good anchorage off the river during the summer ; there being 16 fathoms on a muddy bottom at 2 miles from the shore. Ships approaching the land in the latitude of Mehdoumah will strike soundings in 100 fathoms, coarse sand, when distant 18 miles from the shore, and will shoal to 50 fathoms at the distance of 8 miles.

8. From Mehediyah the coast runs in a S.W. direction, *Slá, or Sali*. generally resembling that before described, but rather more level, and wooded. At the distance of 17 miles the town of Slá, or Sali, stands on the northern bank, and near the mouth of the river Abou Rakrak. It is encompassed by a wall 35 feet high, strengthened and flanked by towers at regular distances, but nevertheless, capable of offering very little resistance to a regular attack. At the south-west angle of the town there is a battery mounting 18 heavy guns, which commands the passage over the bar of the river.

The town of Rabāt stretches along the opposite or southern *Rabāt*. bank of the river, and is larger than Sali. The population of

both together is estimated at 30,000 ; some hands are engaged in the manufacture of carpets, the colours of which are remarkably brilliant ; and wool is also exported. Bullocks and other refreshments are readily procured, and at the time of Lieut. Arlett's survey (1835) the governor showed a friendly disposition. The fortifications towards the sea are of a recent date and kept in tolerable order ; the guns are of large calibre, but the batteries are badly situated if they are intended to protect the entrance of the river ; and if merely to defend the town towards the sea, they are useless, for though the water is so deep that a frigate could approach them within a cable's length, yet no landing could be effected at the points where they stand. The battery at the north-west angle of the town commands the entrance of the river, and mounts 24 guns. At a quarter of a mile to the southward, along the cliffs, another battery mounts 18 guns ; and a quarter of a mile further, at the end of the city wall towards the sea, there is a third with 24 guns. To the southward of these batteries stands the Bey's Palace.

Tides.

The sandbank, which has accumulated in the entrance of this river, now rises so much in the centre as to be dry at low water, thereby forming two channels, the northernmost of which is the deepest; the other having but 2 feet at low water springs; but there is a rise and fall varying from 9 to 12 feet. The best anchorage in the road is with Hassan's Tower just open of the south point, and 2 miles from the shore, in 21 fathoms, mud. Boats entering the river take the south channel, and when the sea-face of the battery at the entrance is shut in, the landing-place will be seen. From the road the water shoals very gradually till close to the bar, when it suddenly decreases from 7 to 2 fathoms ; but there is almost always a heavy surf here, which renders it very dangerous for boats to land.

Hassan Tower. The well-known tower of Hassan, to the south-eastward of the town, is 180 feet in height, and, standing on a cliff which rises 70 feet above the river, may be seen 5 or 6 leagues from the deck of a ship.

Massa Tower. 9. Following the coast from Rabāt, 7 miles W.S.W., the first conspicuous object is Massa Tower ; and 22 miles further the little town of Mansoriyeh will be seen, but the only remark

which it requires is, that its principal moske rises to 180 feet above high water.

Five miles further we come to the village of Fedālah, with its projecting cape, which at a short distance has the appearance of an island, and affords some shelter to the small bay in front of the village. Vessels may anchor there in 5 or 6 fathoms, but very near the shore.

From Rabāt to Cape Fedālah there is no danger at a quarter *Fedālah.* of a mile off the shore, and the bank of soundings is upwards *Bank of Soundings.* of 20 miles in breadth and tolerably regular. In latitude 34° 13' N. at 21 miles N.W. of Rabāt, there are 162 fathoms, and from whence it suddenly shoals to 90 and 80 fathoms, between which depth and 60 fathoms it continues for many miles to be fine sand and mud. The coast between these places is slightly embayed, but the inland features scarcely vary in appearance; two lines of barren and gently undulating hills running nearly parallel to the coast. The distant hills are from 200 to 400 feet high, and lie 5 or 6 miles from the sea, while the near hills are not more than 200 feet in height, nor more than a mile from the beach, on which many patches of rock are intermixed with the sand, and down to which they gradually slope.

10. Dar-el-Beīda, or the White House, 11 miles from *Dar-el-Beida, or Anafi.* Fedālah, was formerly a place of importance, but has been suffered to go to decay. The fortifications appear, however, to have been lately repaired, and the adjoining country is said to be exceedingly fertile. From that part of the coast where the town lies the coast makes a sudden bend to the N.W., throwing out the rocky Cape Dar-el-Beida in 33° 38' N., and 7° 36' W., and bearing W $\frac{3}{4}$ S. 13 miles from Cape Fedālah. Reefs extend from it to the distance of nearly half a mile, and further off there is a rocky bank with 6 fathoms over it. A reef of rocks, which projects from the town also, affords some shelter to a landing-place. The bottom is rocky in many parts of the bay, which must be a very unsafe anchorage during the winter, not only from its foul bottom, but from the current, which sets obliquely on the cape, rendering it difficult for a vessel when weighing to clear it with an on-shore wind.

11. From Dar-el-Beīda the coast runs nearly in a straight line W. $\frac{1}{2}$ S., 35 miles to Azamor Point,* the first two miles

* See Chart of West Coast of Africa, Sheet ii.

being rocky, but the rest becoming a broad sandy beach, inside of which two parallel ranges of hills, of 300 and 400 feet in height, rise at the distance of 2 and 6 miles from the sea, and are partially covered with brushwood. At Azamor Point the

Wad Om-er-biyeh.

coast suddenly bends in to the mouth of the river Om-er-biyeh (mother of herbage), on the south bank of which, and 120 feet above the sea, stands the town of Azamor. "As we approached the town," says Lieut. Arlett, "towards sunset it was refracted through the haze into a magnificent looking place, and a tomb in the centre of the town had the appearance of a stately cathedral; but the morning light shewed all to be mere heaps of ruins." The river has a bar of sand across its mouth which dries nearly across at low water; though on the inside it is said to be deep and rapid.

Mazaghan.

12. The small town of Mazaghan stands on a low rocky point, 8 miles to the westward of Azamor, the coast between them forming an extensive bay. Its latitude is $33^{\circ} 16' N.$, and longitude $8^{\circ} 26' W.$ From Mazaghan Point a reef extends nearly a mile to the N.E., and somewhat shelters the anchorage in westerly winds, notwithstanding which a heavy swell rolls in. The soundings in this little nook vary from 2 to 6 fathoms, and are apparently mud, but a little below its surface the anchor finds ledges of hard smooth stone, which render it very bad holding ground. Further eastward, in the larger bay, the general depth is from 7 to 10 fathoms (fine dark sand), but this would be a wild and dangerous anchorage during the winter months.

Fortress.

The town or rather fortress of Mazaghan is well situated for defence, being nearly at the extremity of the point. It is a square, the sides of which are about 500 yards in length, and the walls 30 feet thick, and 35 feet high. There are half-moon bastions at each angle, with a deep broad ditch, faced with masonry, and containing 9 feet of water when the tide is in, for it communicates with the sea, and even serves as a dock for small vessels. The houses are in a most ruinous state, and the population is reduced to 200; but they still possess a magnificent and admirably constructed tank which holds several thousand tons of water. The principal magazines and soldiers' quarters are bomb proof, and in tolerable repair. There is also here a lofty building of 140 feet in height; it is rapidly

Tank.

going to ruin, but from its construction, it would appear to have been once a lighthouse.*

13. Seven miles to the south-westward of Cape Mazaghan will be seen the ruins of the ancient city of Tett ; the extensive walls of which may be traced by the vestiges of numerous square towers. One very lofty tower is still in a tolerable state of preservation ; it is 128 feet high, and stands 148 feet above the level of the sea, with a white tomb on each side. The coast between Mazaghan and Cape Blanco should not be approached nearer than a mile and a half, as scattered rocks lie off the shore, and the soundings are very uneven. The beach also, though in many places a broad sand, is generally lined with craggy rocks. A barren line of hills, 200 feet above the sea, slope to the beach throughout the above interval, and terminate just to the northward of the cape, in a low, dark, and rocky cliff.

14. Four miles further we come to Cape Blanco, which no doubt derives its name from a white cliff, 170 feet high, a little to the southward of the headland that really forms the cape. It stands in $33^{\circ} 8' N.$, and $8^{\circ} 36' W.$, and is generally called North Cape Blanco, to distinguish it from the other cape of the same name in the latitude of $20^{\circ} 47' N.$

At 19 miles N.W. b. N. of the cape, 111 fathoms, gravel, will be found, and at 22 miles N.W. b.W. 100 fathoms, broken shells, from whence it shoals gradually to the shore.

In most of the charts of this coast, an island called Duksal was placed 4 miles south of Cape Blanco ; no such island now exists, but there is a dark cliff which projects a little from the shore, and may perhaps, in some directions, have an insular appearance.

About 6 miles to the southward of Clape Blanco, the hills rise gradually from the beach to the height of 450 feet, and seem to be the highest land on the coast. About 10 miles from the cape there is a black tower with some ruins near it ; and 21 miles further to the S.W. the ruins of El Waladiyeh *El Waladiyeh*.

* Mazaghan was the principal settlement on this part of the coast, of the Portuguese, who founded it in 1506, and called it Castilho Real. In 1510 they removed it to their establishment of Azamor, and continued to strengthen and beautify it for two centuries ; but in 1769, their commerce having declined and their interest ceased, it was quietly evacuated, and left to the Moors.

may be seen on the shore, with a smaller patch of ruins, $2\frac{1}{2}$ miles further. There is said to be here an extensive lake, with deep water, communicating with the sea ; but the boats of the Raven did not discover the entrance : it was probably concealed by the high surf which rolls along the whole of this forbidding shore.

Four miles to the north-eastward of Cape Cantin the profile of the land, which is here about 450 feet above the sea, begins to lower gently, but just inside the cape it again rises into a hummock, on the outer edge of which there is a white patch, seen both from the northward and southward, and apparently the site of a former town. A singular looking gap in the ridge of the cape, is also seen on both sides.

Cape Cantin.

15. Cape Cantin, or Ras-ül-Hadik, *i.e.*, Palm-grove Cape, in latitude $32^{\circ} 33'$ N. and longitude $9^{\circ} 14'$ W., is 47 miles S.W. b. W. $\frac{1}{2}$ W. from Cape Blanco. The cape rises precipitously 200 feet above the sea : at 16 miles to the westward of it, soundings may be obtained in 100 fathoms, fine sand; and at 11 miles, 40 fathoms, sand and shells, decreasing irregularly to the cape, from which a reef or sandy spit runs off more than a mile, with 5 fathoms on its extremity.

Cape Safi.

16. Cape Safi, the northern point of Safi Bay, bears S.W. $\frac{3}{4}$ W. 12 miles from Cape Cantin ; the intermediate coast is a continued line of white cliff with a broad sandy beach at its foot ; the cliff gradually rising to upwards of 500 feet at Cape Safi, which may be known by a square tower said to be the tomb of some celebrated Moorish saint. At the cape, the land suddenly recedes into Safi Bay, and the cliff drops into a ravine, the bed of a winter torrent. On the slope of the hill which rises from the south side of this ravine, stands the town of Safi, or more properly Asáfi, a place of considerable antiquity and importance, but now reduced to a population of about 6,000. It is surrounded by a wall 30 feet high, and a ditch, which is, however, filled up in many places ; the tower of the principal moske is more than 200 feet above the sea. On the fortifications fronting the anchorage there are 24 heavy guns mounted. Water is scarce, and during the summer it has to be procured from wells a short distance to the southward of the town. The country in the neighbourhood appears from seaward to be sandy and barren, but travellers assert that it is remarkably fertile.

Safi, or Asáfi Town.

The bay, during the summer months, affords as good anchorage and smoother water than any other on the coast, but is entirely exposed to westerly winds ; the bottom is sand and mud, and there is generally about 15 fathoms water a mile from the shore.

At 7 miles to the southward of Safi, a red cliff called Sharf-el-Judi, or Jews Cliff, rises to 280 feet above the sea. Ten miles further brings us to the mouth of the Wad Tensift, the principal river of Morocco ; the general character of the coast continuing throughout that space, high sand hills, sometimes terminating in low cliffs and sometimes in sloping points, and backed by brushwood hills above 600 feet in height. Half-way between Safi and that river we were shown a building said to be a large reservoir constructed by the Portuguese.

17. The Wad Tensift, though a very considerable river in the interior, had, in the month of August, its bar entirely dry at low water. On the northern bank of the river there is a castellated building in ruins.

From that river the coast runs in a S.W. b. W. $\frac{1}{2}$ W. direction 9 miles to the tomb of Sidi Abd Allah ; and further on, other tombs with the ruins of a town will be seen, at the base of the Iron Mountains. The coast, which from the Tensift is barren and uncultivated, and from 200 to 300 feet in height, here shows renewed signs of cultivation. Jebel Hadid, or the Iron mountains, a large mass of high land, extending more than 20 miles in length, rises to the height of 2300 feet ; and on one of its summits the tomb of Sidi Wasman forms a very conspicuous object. Nearly in the latitude of this hill a sandy spit, called Hadid Point, projects a mile beyond the general trend of the coast, and terminates in a reef of half a mile in length.

From Hadid Point the sandy beach continues in a south-west direction 12 miles to Mogador ; the view inland being bounded by the Botof high sand-hills, which run parallel to the beach at about a mile distant. Gradual soundings, from 25 and 20 fathoms at 6 and 7 miles in the offing, up to the shore, will be found all the way from Safi to Mogador.

18. On approaching the land in the parallel of Mogador, the first remarkable features are the distant craggy summits of

Mount Atlas, capped with snow, and contrasting with the dark ridges of intermediate hills ; while to the northward the Jebel Hadid, or Iron Mountains, appear like a large island. On a nearer approach to the shore, a narrow white streak of sand-hills, fringed at the top with verdure, seems to rise out of the sea ; and at the distance of 3 or 4 leagues, the mosque towers and castles of Mogador begin to be distinctly seen, as well as its low black island. Soundings in 100 fathoms may be obtained at 22 miles from the shore, in the parallel of Mogador, when the water almost immediately becomes discoloured ; and from the depth of 78 fathoms, the soundings decrease gradually.

*Mogador,
or Suira.*

19. Mogador, or Suira, dates only as far back as 1760, when the Sultan Mohammed Ben Abdallah having been attracted there by the wreck of a European vessel, laid its foundations.* Unlike those of any other town in his dominions they were planned by a Genoese architect, with some little attention to convenience and regularity ; and the effect was so pleasing to his Majesty that he gave it the name of Suira, or the Beauteous Picture. It is, however, better known to Europeans by its more ancient though less flattering name of Mogador. It stands on a low sandy spot, which is surrounded by the sea, at high-water springs, and the adjacent ground is therefore a swamp. The town is encompassed by a wall with flanking batteries at each angle ; which are, however, weak ; but there is a line of heavy guns on the sea front, and a battery at the sea gate. Other batteries of heavy guns, on some of the ledges of rocks, guard the entrance to the harbour ; and one of them, with a circular bastion at the south end, rises into a square castellated battery at the north end, from which a fortified bridge connects it with the town by another castle, and a straight wall of about 200 yards in length. These fortifications were constructed by Genoese engineers, but, though full of guns of large calibre, they are not strong, the walls being slight, and the embrasures very close together.

Water.

Formerly there was a great want of water, as the river is a mile and a half distant, but an aqueduct now conveys the stream to several large tanks built in different parts of the town. One of these has been placed very conveniently for the vessels

* See Plan.

in the harbour, as it lies close to a jetty inside the fortified bridge ; and boats may fill there towards high water, perfectly sheltered from all winds. The market is excellent ; provisions *Provisions.* of all sorts, including fish, poultry, and game, are abundant and cheap, as are also fruit and vegetables. The price of beef is regulated every day by a superintending officer. For the amount of the population there are various estimates, of which *Population.* 10,000 is perhaps that nearest the truth. The port charges *Port charges.* for merchant vessels are high as well as for ballast, and no cargo can be safely landed till a present of 25 dollars or more has been made to the governor. Boat-hire is also ex- *Boat-hire.* pensive, but the number of boats that are every year destroyed by the surf satisfactorily accounts for a little exorbitance in that respect.

The harbour, or, as it is generally termed, the bay, is formed *Port or Harbour.* by a double bight in the coast line ; the northern part of which is somewhat sheltered from the long Atlantic swell by the little rocky island of Mogador, though only half a mile in length. It lies about half a mile from the opposite beach, and three-quarters of a mile from the town ; it rises about 94 feet above the level of the sea, and except upon the harbour side it is surrounded by some large detached rocks and several reefs; but these help its three batteries to defend the north and south entrances and the anchorage between it and the main land.

The north entrance affords a clear channel, about 2 cables' lengths wide with from 4 to 6 fathoms water, into the bay ; but there the depth decreases to 3, 4, and at the most 5 fathoms, on a rocky bottom, with only a superficial covering of sand; and the clear space for anchoring is contracted to little more than half a mile by the reefs of the town point, and by the two fathoms flat which stretches from the shore to the island. But the actual extent of the anchoring berths is of much *North entrance to Mogador.* smaller dimensions, for all vessels who know anything of the port haul close in to the eastward of the middle of the island, indeed at little more than half a cable's length distance, and therefore in only 14 or 15 feet at low water, loose sandy bottom. A more central position in the bay and in deeper water would be directly open to the swell of the Atlantic, which occasionally sets in with great violence, even in moderate weather. With

the prevalent north-east wind this northern entrance is so distinct as to require no further directions, than to keep mid-channel, and to haul round the rock off the north end of the island as closely as may be practicable.

South entrance. The bight to the southward of the island is never used as an anchorage, but vessels which draw not more than 12 feet find it more convenient to cross the above-mentioned flat, or bar, and to run *out* in that direction with the benefit of the current, than to work out through the northern entrance. The lead will be a sufficient guide not to deviate much from mid-way between the island and the opposite shore in passing through this south channel ; or the great moske of Mogador, standing near the beach, in one with a house with an angular roof (the only one in the town) will cross that flat, or bar, in the deepest water.

Mogador dangerous in Winter. Vessels should moor in the above-mentioned anchorage with a very short scope of cable, and with an open hawse either to the northward or southward according to the prevalent winds or season of the year. But from November to April this bay can scarcely be considered tenable, although it has often been asserted that vessels with good ground tackling need be under no apprehension. To which the prudent seaman will reply, that the equivocal nature of the bottom shows that no reliance can be placed on the hold of the anchors ; and that the necessity of veering more cable to a westerly gale will infallibly increase the exposure of the vessel to the effects of the swell which rolls round both ends of the island, and which again re-acts from the opposite shore. In January, 1838, four devoted vessels, varying from 110 to 250 tons, were caught there in a severe south-west gale : they lay under the island in the berth before mentioned, and were riding with three anchors ahead ; but their danger did not so much arise from the violence of the storm as from the tremendous back run of the sea round the northern entrance of the bay, being in direct opposition to the wind. Their stern-boats and windows were soon dashed to pieces ; their decks were cleared fore and aft, and at length three out of the four drove from their anchors on the sandy beach close to the town ; while the fourth, after being several times nearly thrown on her beam ends from the conflicting powers of the wind on the bow and the sea on

Mogador. Wrecks.

the quarter was obliged in the height of the gale to slip and run on shore. Fortunately, from being driven very high on the beach, no lives were lost; but her people, as well as the other crews, were immediately plundered by the Moors, which was connived at by the governor of Mogador, though they were ostensibly protected by his guards.

From the foregoing facts it is obvious that vessels of large tonnage, and of more than 14 or 15 feet draught, would find it imprudent, unless in fine summer weather, to anchor in the harbour; and if intending to pay Mogador but a short visit, fair anchorage can be obtained outside the island, open indeed to the south-west round to N.E. b. E., and at all times exposed to a long swell, but comparatively safe in the power of slipping and of proceeding to sea. H.M.S. Dido anchored here in 13 fathoms, fine dark sand, and found on weighing her anchor that it had had a good hold. The extremes of the land bore from her N.E. b. E. and S.W.; the castle, S.E. b. E.; the town point, S.E. $\frac{1}{4}$ E.; and the rocky points at either end of the island, S. b. E. $\frac{3}{4}$ E., and S.W. b. S. This anchorage is three-quarters of a mile from the castles; and the pilots consider it to be the best outer anchorage; but the ground is loose.

The latitude of the British Consul's house is $31^{\circ} 30' 30''$ N., and the longitude $9^{\circ} 44'$ W.

20. It is high water on full and change of the moon about *Tides.* 4h. 30m. The rise and fall of spring tides is about 10 feet; but occasionally it has reached 12, and even 14 feet. The tides are generally regular in their ebb and flow, but their direction varies with the wind, and their strength is at all times weak.

The current in-shore is said sometimes to set to the north-*Current.* ward; but in the offing always to the south-westward.

The wind near the coast generally blows from the N.E. *Winds.* quarter for nine months of the year, and is considered there as a regular trade wind; while it continues the atmosphere is clear, and the weather fine. Southerly winds bring cloudy weather and rain. The stormy months are December, January, and February.

21. Cape Sim, or Ras Tegriwelt, lies 8 miles S.W. of Mogador. *Cape Sim, or Ras Tegriwelt.* It is a low, sandy point, sloping gradually from a considerable height, and terminating in reefs of rocks which surround the

point at the distance of nearly a mile. The intermediate coast between this and Mogador is a continued line of bare sand-hills, 70 feet high, sloping to the beach. The Botof sand-hills are seen at the same time, covered with a dark evergreen cap.

Botof Sand-hills.

Wad Tidi.

Koleï'at.

Tefelneh Ras, or Cape.

Cape Ghir, or Ras Aferni.

Cleveland Shoal.

Santa Cruz or Agadir.

Seven miles to the southward of Cape Sim the Wad Tidi issues through a picturesque ravine ; and not far from thence the village of Koleï'at. From the Tidi to the Ras Tefelneh bold cliffs, apparently of sandstone, come down to the shore, and at 7 or 8 miles in the interior rise into a range of hills between 2000 and 3000 feet above the sea.

Ras, or Cape, Tefelneh, is 18 miles S. b. W. $\frac{3}{4}$ W. of Cape Sim ; it rises to 700 feet in height, and terminates in a point, from which a ledge of rocks extends half a mile, with deep water close outside them.

22. Cape Ghir, or Ras Aferni, projects boldly into the sea 29 miles S.S.W. $\frac{1}{2}$ W. from Cape Tefelneh ; the intermediate back land rising nearly to the height of 3000 feet, and the country appearing to be well inhabited from its numerous villages, with several conspicuous tombs and scattered woods. The cape is in latitude $30^{\circ} 38' N.$, and longitude $9^{\circ} 50' W.$ It shows a bold bluff face, but slopes gradually on each side from the summit, which is about 1200 feet high. The 100 fathoms line of soundings approaches to within 10 miles of the cape and the bottom seems to slope evenly between those points.

A rocky shoal, said to have been seen in 1765 by Captain Cleveland, R.N., in latitude $35^{\circ} 45' N.$, at 9 leagues from Cape Ghir, is of very doubtful existence. Lieutenant Arlett says, " Four days were employed in searching for it by both vessels without success, and I can state with confidence that it does not exist, in the position hitherto assigned to it."

23. The town of Agadir, or Santa Cruz, stands on the summit of a hill about 600 feet above the sea, in $30^{\circ} 27' N.$, and $9^{\circ} 34' W.$, and bearing S.S.E. $\frac{3}{4}$ E. from Cape Ghir.* The deep bay which intervenes offers a convenient anchorage during the prevalence of the north-easterly winds. The beach is rocky from the cape to Wad Tamarat, which enters the sea through a fertile valley, about 5 miles to the northward of Agadir. The hilly region which backs this part of the coast, and called the Heights of Idautean, is the western extremity of the chain of Mount

* See West Coast of Africa, Sheet iii., and Plan of Santa Cruz.

Atlas, which ranges from hence in an E.N.E. direction, and rises at 9 miles from Agadir to the height of 4400 feet.

About half-way down the hill, between the town of Santa Cruz and the sea, there is a battery, which was intended not only to command the anchorage, but to protect a spring of water near the beach ; it is now nearly ruined, as well as the walls of the town, which have fallen in many places ; and the Portuguese settlement of Fonté, in the bight of the bay, *Fonté*. would be scarcely distinguishable but for the tombs of two Moorish saints, which are kept whitewashed.

The Bay of Agadir affords good shelter, with a moderate depth of water, from north-easterly winds, but is exposed to those from the westward. The castle bearing N.N.E., in 7 or 8 fathoms water, and less than a mile off-shore, will be found a convenient anchorage. The bay is quite alive with fish, large *Anchorage*. quantities of which are caught, dried, and sent to Mogador and to the interior ; and this is the only trade which it possesses. This is certainly one of the best, if not the best roadstead for shipping along the coast of Morocco ; provisions are good and plentiful, and water easily procured. Mr. Jackson states that during his residence here for three years, no vessel was lost or damaged in the bay.

The current which prevails along the coast of Morocco is *Current*. not felt abreast of Agadir till at the distance of 6 or 7 miles from the land, being deflected by the projection of Cape Ghir.

24. Immediately to the southward of Santa Cruz a very low and flat country commences, and extends for 28 miles. The river Sous discharges itself into the sea at 5 miles distance from *River Sous*. Agadir. Mr. Jackson remarks that this fine river rises at the foot of Mount Atlas, 30 miles above Tarudant, and from the circumstance of there being still in the walls of that town large iron rings, such as are seen in the quays of maritime cities in Europe, for the purpose of mooring ships, he conjectures that it was formerly navigable as far as that place. At present there is a bar of sand across the entrance, which is nearly dry at low water, and at no time can it be entered by a vessel drawing more than 4 or 5 feet.

From the river Sous the same description of sandy coast continues to the southward, and at the distance of 7 miles are the Souwaniyeh, or wells of fresh water, which Mr. Jackson *Souwaniyeh, or Tomieh; the Seven Wells*.

calls Tomieh, or the Seven Springs. The anchorage off this place differs in no respect from that which can be found on almost every part of the coast. The bank of soundings here becomes very narrow, there being at the distance of 17 miles from the shore 86 fathoms, dark sand ; at 6 miles, 40 fathoms, sand and mud, decreasing gradually to the beach.

Wad Mesa.

25. At the distance of 12 miles further to the south-westward there is a little river, possibly the Wad Mesa, with a bar of sand which dries at low water ; but it is said to have been formerly navigated by the Portuguese. At a short distance inside, on the northern bank, there is a village ; and to the southward, near the beach, an ancient castellated building.

Cape Aguláh.

Cape Aguláh of the old charts, in $29^{\circ} 49' N.$, is in fact only a slight elbow : a decided change, however, in the appearance of the coast does begin here ; for though the surfy beach continues as to the northward, its bleak rocks are now superseded by a series of green hills, which, as they approach the sea, break off into cliffs of sandstone, about 100 feet in height. At a great distance inland a range of mountains, about 2000 feet high, begins to diverge towards the coast, and much of the neighbouring country seems to be wooded, cultivated, and well inhabited. The houses, which are built of dark red brick or clay, are numerous, and some are large and surrounded by farm buildings. The village of Aguláh stands on a hill, about a mile from the beach of a small sandy bay, into which the Wad Assa falls ; and the surrounding corn appeared to be now (May) nearly ripe.

Wad Assa.

26. Twelve miles to the south-westward of Aguláh, the features of the country again alter ; the hills resume their abrupt and barren appearance, and form in successive ridges, gradually increasing in height till they join the line of distant mountains, which, as well as could be estimated, reach the height of nearly 4000 feet, and appear to be the south-western extremity of one of the offsets of the Atlas range. Still further to the south-westward these bare hills and the broad sandy beach give place to dark red cliffs, broken into little bays and coves, in some of which boats (the first seen to the southward of Santa Cruz) were hauled up. From the number of its villages this part of the coast seemed to be populous, and the Lanzarote pilot stated that a Spanish fishing-boat had been

Mount Atlas.

captured here in 1833, and that the fate of the crew had never been ascertained. A boat from the shore seemed half inclined to visit the Raven but suddenly returned to the beach, and the Moors refused all intercourse with her boats which were sounding.

In latitude $29^{\circ} 22'$ N. there is a remarkable white cliff, the singularly curved and irregular strata of which, with a solitary conical mountain inland, like a sugar-loaf, form a good mark for this part of the coast. In this latitude the bank begins to increase in breadth ; at 30 miles from the shore there are 100 fathoms, on broken shells, outside of which it drops very suddenly ; but farther in the depths decrease rapidly to 60 fathoms. At 5 miles there are from 28 to 24 fathoms, coarse sand ; and from thence the depth decreases more gradually to the beach.

Sugar-loaf Mountain.

In latitude $29^{\circ} 10'$ N. a little bay, called Wad Gueder, will *Wad Gueder.* be found between two steep rocky points ; the water is deep, and the bottom clean up to the beach ; and though it affords no shelter for large vessels, yet a landing may generally be effected there.

27. In latitude 29° N. the mountainous country terminates, and a sandy desert commences. There is also a break there in the coast, which has the appearance of the dry bed of a river : it is called by the Canary fishermen Rio de Playa Blanca, and *Playa Blanca River.* is 81 miles S.W. b. W. from Wad Mesa. The coast from hence runs W. $\frac{3}{4}$ S. 29 miles to Cape Noun. At 4 miles to the westward of the Playa Blanca, the shore breaks into bold sandstone cliffs, with sandy downs in the interior, but entirely devoid of herbage ; and continues so the whole of the distance to Cape Noun.

M. de Chenier,* and after him Mr. Jackson,† speaking of the country between Agadir and Cape Noun, say that this is a tract of coast which holds out great encouragement to commercial enterprise, and secure establishments might be maintained there, which would amply remunerate an enterprising speculator. The people near the Sous are well disposed towards Europeans ; and its short distance from the provinces, where most of the valuable products of Barbary are raised, would lead

Supposed dangers North of Cape Noun.

* *Recherches Historiques sur les Maures, Paris, 1787.*

† *Account of the Empire of Morocco, 1809.*

to a profitable trade. But they observe that "all along this dangerous and deceitful coast, there are rocks even with, or very near, the surface of the water, over which the waves break violently ; and the rapid currents which invariably set in towards the land, too often drive vessels ashore here." These supposed dangers along the coast are completely disproved by Lieut. Arlett's survey ; but the former paragraph, relating to commerce, is in some measure confirmed by Mr. Wilshire, the British Vice-Consul at Mogador, a gentleman well known for his philanthropic exertions in liberating Christians from slavery, and who has extensive connexions in this district and in Wednesday, where his agents reside. Mr. Riley also, who was wrecked about 10 leagues to the northward of Cape Bojador, and who travelled on foot from thence to Mogador, describes the country through which he passed, especially the province of Sous, as being peculiarly fertile and populous ; and he adds that "the people are less bigoted, and more friendly towards Christians than the Moors generally are." The real obstacle which opposes itself to opening a trade with these countries is the want of secure harbours, or, indeed, of any tranquil anchorage.

Cape Noun.

28. Cape Noun lies in latitude $28^{\circ} 45' N.$, and longitude $11^{\circ} 2' W.$ It presents a steep face of sandstone about 170 feet high ; but as the cliffs for some distance on each side of it are nearly of the same elevation, and the country inland an uninterrupted sandy desert, it is difficult to make out the exact projection till very near it. The water is deep close to, there are no dangers, and the depth gradually increases from the foot of the cape to the distance of 4 miles, where there are 30 fathoms, reddish sand ; at 12 miles, 50 fathoms, dark sand ; at 20 miles, 57 fathoms ; and at the distance of 30 miles, 100 fathoms, coarse red sand : further out the water deepens suddenly ; all which shows that, though the bank is not a regularly inclined plain, there is no extensive flat off the cape, as hitherto supposed. For some distance, however, both north and south of it, as well as to seaward, the water has a red tinge, with a thick muddy appearance, so that the track of a ship is visible for a length of time. This discolourment of the water may have alarmed navigators with the apprehension of shoals, and may account for the alleged flatness of the bank ; but it is evidently occasioned by the immense volume of very fine sand

*Red tinge in
the Sea.*

which is blown off the desert, and with which everything on board soon becomes coated, even at many miles from the shore. The water also of the River Noun, and of other streams which here discharge themselves, and which are also all saturated with this sand or dust, project it a long way out to sea, till it is caught by the current and dispersed.

29. The River Noun, which makes its exit 5 miles to the *River Noun, or Assaka.*

south-westward of the cape, has been given a variety of names by different authors and travellers, the Wad Noun of Borda, the Assaka or Akassa of Jackson, the Schleema of Wilshire, and the Solyman of Davidson ; but that of the Noun has been retained here, and in the accompanying charts, from its proximity to the cape. More than 30 miles, however, further to the south-west, and in $28^{\circ} 19' N.$ latitude, there is another river of about the same magnitude, to which the name of Wad *Wad Noun.* Noun has been equally often applied, and probably correctly, as the city of Wed-noun, or Wad Noun, is said to stand on its banks. Singularly enough the features of the coast adjacent to the mouth of each river might answer for either, so that their latitudes become the best guides that we are as yet enabled to give. In the southernmost, or the Wad Noun, there appeared to be water enough for the large boats, which it is said trade there from the island of Lanzarote, but the surf forbade any attempt to cross the bar in order to examine the interior, the orders under which Lieut. Arlett was conducting this running survey being peremptory, as well with respect to the furious surf which desolates the whole of this coast, as with respect to any unguarded intercourse with the treacherous Moors, by whom it is inhabited.

The northern Noun, or Assaka, when well open, may be recognized by two hills, which will then appear in the centre of the gap : they are both conical, and on one of them, which is about 300 feet high, there are some ruins, said to be those of a Spanish fortress. When approaching the southern river, or Wad Noun, the table-land breaks into detached hills, which will help to identify it : the highest of these hills rises about 900 feet above the beach.

The coast between the rivers is a continued line of sandstone cliffs ; while the table-land just shows above these cliffs, when seen at the distance of 3 miles from the shore ; and there is

River Noun. there a regular depth of 20 fathoms and good anchorage ground, with which, however, it is not safe to make free before March nor after October.

Before quitting the subject, it may be hinted that, if any attempt should ever be made to open a direct trade with this part of Morocco, either of these rivers would offer an eligible station for a factory; as there appears to be sufficient evidence that inside the bar there is ample room and depth for vessels of some burthen; that the favourable opportunities for crossing the bar are frequent; and that the rivers are navigable for large boats to a considerable extent up the country.

Fishery of Cape Noun. 30. A fishery, which is carried on by the inhabitants of the Canaries, commences at Cape Noun; the fishermen seldom venturing further to the northward, though fish are there equally abundant, from their dread of the Moors, who on that part of the coast possess boats. But from the cape to the Bank of Arguin, which is the southern limit of the fishery, there is not a single boat; and the fishermen, therefore, not only work the bank close in-shore, but frequently land, as well to barter their fish for orchilla and the fine Barbary wool, as to procure water, but always with the greatest circumspection.

Porto Cansado. 31. From these rivers the coast and inland features of the country continue the same, to the longitude of 12° , the cliffs being about 120 feet in height; but there they terminate, and a low sandy beach commences in a W. $\frac{1}{2}$ N. direction for the distance of 11 miles to the Porto Cansado of the Portuguese in latitude $28^{\circ} 4' N.$ and longitude $12^{\circ} 12' W.$ The entrance appeared to be very narrow, but widening inside, and forming a sort of lagoon. The sea broke heavily across, and it is barely possible that boats may at times be able to enter. A table hill, 400 feet high, between it and the back land, is its only distinguishing mark. Nothing can be more dismal than the appearance of the shore hereabouts; for many miles there is not a dark spot to be seen to break the monotonous appearance of the sand, the fine particles of which mingling with the haze occasioned by the heavy surf, render the coast very indistinct.

Cape Noun to Cape Juby. From Cape Noun to Cape Juby the bearing and distance are W. $\frac{2}{3}$ S. 36 leagues, and the coast between them embays about 12 miles, the Wad Noun being the point where the indentation is deepest. From thence consequently it curves outward, and

the current, which had hitherto nearly followed the direction of the shore, here strikes it obliquely, rendering this the most dangerous part of the coast between Capes Spartel and Bojador, and fully accounting for the numerous wrecks which have occurred there. The swell too is almost invariably from the north-west, and therefore sets directly into the bight, so that it is almost impossible for a merchant vessel embayed there to work off.

A short distance to the westward of Port Cansado a cliff, from 90 to 100 feet in height, again commences, and continues for several miles : it consists of dark sandstone, and the bottom is also dark sand, which gives a dark greenish appearance to the water. Inland a flat desert extends as far as the eye can reach ; but there is no beach, the sea breaking against the cliffs, on which it appears to be gradually encroaching. Where the cliffs terminate, the country becomes broken into sand-hills partly covered with bushes, and the coast runs in the direction of W. $\frac{1}{2}$ N. 15 miles to Cape Juby, which is 36 miles from Port Cansado.

32. Cape Juby, in 27° 58' N. and 12° 53' W., is a low sandy point, terminating in a hummock covered with bushes, and having in all directions the appearance of an island. There are some rocks which project from the cape to the distance of a third of a mile with 10 fathoms water close to them.

33. From Cape Juby the coast turns to the south-west, forming little bays, off the points of which are some scattered rocks, though the general coast line is a sandy beach with the exceptions of three small patches of cliff and of the cape. At the distance of 4 or 5 miles inland there is a long range of broken sand-hills, not exceeding 250 feet in height, called Los Matillos. In 26° 46' N. the sandy shore terminates and a series of cliffs commences, running S.W. and W. $\frac{1}{2}$ S. for 38 miles, or to within 3 miles of the False Cape of Bojador. This cape is low and sandy, with a reef of rocks extending from it about 1 $\frac{1}{2}$ miles to the northward ; and N.W. $\frac{1}{2}$ W. 6 miles from the cape there is a 7 fathoms bank with 17 fathoms between it and the above reef, but circumstances unfortunately did not admit of this suspicious little bank being traced to its limits, or of this part of the main bank being closely examined.

From the False Cape it is 25 miles W.S.W. and S.W.b. W.

*False Cape of
Bojador.*

*Seven Fathoms
Bank.*

to Cape Bojador, which lies 140 miles S.W. b. W. from Cape Juby.

Current.

34. The current between Mogador and Cape Bojador runs in the direction of the coast, to the southward and westward, inasmuch that its course may be safely inferred from the bends of the shore. Its greatest strength is usually at the distance of from 3 to 6 miles from the land, gradually decreasing both inwards and outwards ; and its average rate within that belt is from half to three-quarters of a knot, as far as Cape Juby. At that point, from the conformation of the coast, and from being compressed by the Canary Islands, its velocity increases to $1\frac{1}{4}$ knots. Off Cape Bojador it is again less than a knot, and as far as could be observed it pursues its steady course uninfluenced by any change in the direction of the wind.

CHAPTER II.

FROM CAPE BOJADOR TO THE RIVER GAMBIA.

35. BARON ROUSSIN says that Cape Bojador, "when seen *Cape Bojador.* from the northward, shows a strand of red sand, with a gradual descent towards the sea ; and that its western extremity, which is very low, forms a small bay with the cliff which immediately follows." The eastern part of the cliff, which is the most remarkable and about 70 feet high, stands in $26^{\circ} 7' N.$, and $14^{\circ} 29' W.$ The surf is exceedingly heavy all along this shore, but according to Commander Baldey of H.M.S. Leven, there is a small recess in the shore inside of the cape in which there were 9 fathoms and quite smooth water. The current 4 miles W.N.W. from the cape sets S.W. $1\frac{1}{4}$ knots.

36. From Cape Bojador the coast runs about S.W. $\frac{1}{2}$ S. *Peñha Grandé.* 64 miles, to a very remarkable cliff, called Peñha Grandé, in $25^{\circ} 6' N.$ * Its height, about 300 feet, so far exceeds that of any other spot on this part of the coast, that it serves as a good land-mark. The general appearance of the shore thus far, being alternate cliffs and sandy beaches, the former being the most extensive, and from 150 to 200 feet in height, with flat summits. The country in the interior has a dark appearance, though brushwood seems to be scarce.

The depth of water along this part of the coast is considerable; at 2 miles from the beach, bottom cannot be found at 22 fathoms ; and at a mile from the foot of Peñha Grandé there are 26 fathoms, gravel and broken shells, and it is everywhere safe and clean up to the beach.

Fourteen miles S.W. from Peñha Grandé there is a projecting cliff, which has received the name of Garnet Head ; and to the *Garnet Head.* southward of it the coast falls back so much as to be called a bay, but without affording any shelter. Its southern point is *Garnet Bay.* Leven Head, off which H.M.S. Leven found clean anchorage in *Leven Head.* 15 fathoms.

* See West Coast of Africa, Sheet iv.

Elbow Point. 37. An almost straight and forbidding line of low cliffs of 35 miles in length continues from Leven Head to Elbow Point, with 10 and 15 fathoms at 4 and 5 miles from the shore. In $24^{\circ} 0' N.$ a white sandy beach about 3 miles in extent interrupts this line of dreary cliffs, and after a few miles more of broken ground, an irregular mount of rock and sand will be seen on the shore. It lies in $23^{\circ} 54' N.$, and received the name of Deception Cliff from its having assumed, till close in, the appearance of an island. Immediately to the southward of this mount the basin at the mouth of the river Ouro may be seen over the low isthmus, as well as over part of the peninsula which separates the basin from the sea, and which is about 20 miles in length. It terminates in $23^{\circ} 36' N.$ and $16^{\circ} 1' W.$ at Durnford Point.

*Deception
Cliff.*

Ouro Basin.

*Durnford
Point.*

River Ouro.

This basin of the river Ouro was partially surveyed in 1821, by Lieutenant Vidal, in the Leven, with which ship he crossed the bar, and anchored about 7 miles within it.* Although the entrance is 4 miles wide, it is nearly blocked up by a great sand bank, which reaches out from the main, and by several rocky patches with not more than 10 feet water. The navigable part of the channel is not more than half a mile wide, and lies on the western side of the entrance about $1\frac{3}{4}$ miles from Durnford Point. It crosses the bar in not less than 12 feet at low water, and leads round a long sandy spit projecting to the eastward from the peninsula ; after which it rapidly increases in depth as well as in breadth, and expanding into a fine basin with a clean bottom of a mile or two across from bank to bank, and 7 or 8 miles in length before it again shallows. The surrounding land presented no objects from which a leading mark for the bar could be obtained ; and with the imperfect sketch which the officers of the Leven had only time to make, it would not be safe for any vessel to attempt the entrance without buoying it.

A good landing-place was found close round to the northward of the above-mentioned sandy spit, in a cove, which afforded good shelter to the boats, and abundance of fish to the seine drawers, although much surf rolls across its entrance. There is tolerable anchorage outside the bar in 5 fathoms, but Durnford Point should not be brought to the westward of N.N.W., as the sea was observed to break in many places further to the eastward, and as none of those reefs were examined.

* See Plan.

Herne Island, near the upper end of this extensive basin, is *Herne Island*. 18 miles N.E. b. E. from the bar ; it is surrounded by banks which dry at low water, and which seem to be connected with the mouth of the river Ouro ; but whether this is really a river or merely the continuance of this singular opening has not been ascertained ; scarcely any stream, however, was perceived to issue from its mouth, which was more than a mile wide.

38. It is high water on full and change days of the moon at noon, and the tide rises not less than 8 feet. Off the entrance the flood sets nearly east, and the ebb west, with about 2 knots velocity. Inside the bar it runs $2\frac{1}{2}$ knots. Over the bar and the shoal patches, it sets with great velocity, and causes a high break, which affords an unerring beacon to the shoalest parts. There appears to be 3 or 4 of these sandy bars or ridges, thrown up by the tides ; they extend nearly to Fisherman Point, distant 8 miles S. 8° W. from the point of the peninsula. It may be remarked that there is plenty of fine fish all along the coast from Cape Bojador as well as in the Ouro Basin.

39. From Fisherman Point the coast runs S.W. $\frac{1}{2}$ W. to the latitude $23^{\circ} 6'$ N. ; the first 13 miles being cliffs, along which at the distance of 3 or 4 miles from the shore there appears to be a bank with 5 fathoms on its outer edge, and 12 fathoms close to it. From the top of the cliffs white sandy downs stretch inland with flat summits, one of which at the distance of 8 or 9 miles from the termination of the cliffs, appearing somewhat elevated above the rest, and having its southern extremity peaked, becomes remarkable. It is situated at a short distance from the beach in the Bay of Angra de Cintra. From the north point of this bay a reef runs out S.W. about 2 miles, the point itself being low and sandy. The south point of the bay is in latitude $22^{\circ} 58'$ N., and from it likewise a reef projects to a considerable distance to the N.E. The break in the coast between these reefs, which forms the opening into the bay, is about 7 miles ; and on doubling the northern reef, the bay extends about 4 miles within the sandy point which protects it. Half-way between the two reefs there are only $4\frac{1}{2}$ fathoms, sandy bottom ; and a little further to the S.E. there is a detached shoal. The opening seems otherwise safe, there being 7, 8, and 9 fathoms in the rest of the space. The bay is probably shallow, but abounds with fish, as does the *Fishery*.

Tides in Ouro Basin.

Fisherman Point.

Angra de Cintra Bay.

whole bank from the river Ouro. Twenty fishing vessels belonging to the Canary Islands were found in the vicinity ; they salt and cure their fish for the use of these islands, and they stated that at the foot of the high down above mentioned Water. good water may be obtained by digging in the sand. During the time of the rollers the sea breaks very heavily along this part of the coast ; and in December, when the Leven passed, the sea was observed to break in several parts across the opening into Angra de Cintra Bay.

Cintra Hills. About 10 miles to the southward of this bay, and a few miles inland, there are 3 or 4 small isolated sandy downs, called the Cintra Hills ; they are rather higher than the adjacent ground, and may serve as a mark to find the bay. They cannot be seen further than 4 or 5 leagues.

St. Cyprian Bay. 40. From Angra de Cintra the coast runs S.W. b. S. 21 miles : it is low along the shore, but gradually rises and becomes a continued plain of white sand. The coast then turns S.W. b.W., presenting alternately cliffs and sandy beaches as far as St. Cyprian Bay. The eastern point of this bay is a cliff 150 feet high, with a circular form towards the sea, and a flat top somewhat resembling a fortification. It is bounded on the west side also by a steep cliff, which, after extending $2\frac{1}{2}$ miles to the westward, turns abruptly to the south-westward, and forms Cape Barbas, in $22^{\circ} 20' N.$, and $16^{\circ} 45' W.$, and 55 miles from the north point of Angra de Cintra. The old charts mark a river of some magnitude in Cyprian Bay, but after a careful examination with the boats, the Baron de Roussin asserts that no river exists there, nor on any part of this coast. He called it the Bay of Tribulation, from the danger to which his vessels were exposed during the five days they were occupied in its examination. The bay, he says, being open from N.E. to W.N.W., is therefore unsheltered from the prevailing winds and the heavy swell that they roll in ; and the anchorage, though on a bottom of sand and mud in 10 to 20 fathoms, offering very little security, no vessels should venture in but in cases of absolute necessity. The multitude of fish, however, which are found there, attracts the Canary fishermen, who, seduced by the hope of being quickly laden, and the appearance of moderate weather, anchor too close in ; where, if the wind suddenly freshens, they are equally incapable of beating out of

Cape Barbas.
Tribulation Bay.

the bay with their crazy vessels, or of riding out the gale with their ill-found ground tackle. They are therefore sure to drive, and to be thrown upon the beach, where they are equally sure of being plundered, stripped, and thrown into slavery by the Moors. These Moors appear to be mere wanderers of the *Moors.* desert, and to have no fixed habitation. They are said to be outcasts from the other tribes, to subsist on dried fish, and to be scattered along the coast from Cape Bojador to the Senegal River.

41. The Leven anchored off Cape Barbas in 19 fathoms, fine green sand; the cape bearing S.S.W., distant 4 miles. From that cape to Galha Point the coast is an uninterrupted cliff of *Galha Point.* about 80 feet in height, and lying S.W. b. W. $\frac{1}{2}$ W., distant 9 miles, with 12 fathoms at a mile off, and at 2 miles, 17 fathoms, on a bottom of muddy sand and broken shells. The coast then breaks down to the usual sandy plains with a few cliffs; and to the southward of the point it recedes into a shallow bay full of reefs, leaving an outlying and dangerous rock off each of its points. The northernmost is called the Pedra de Galha; it lies about 2 miles off the point, it is rather higher on the northern than on the southern side, and about half a mile in circumference. To the other the Baron gave the name of La Virginie; it lies exactly 3 miles off the adjacent *Pedra de Galha.* point, and about the same distance S.S.W. from the Pedra de Galha, of which it is three times the size. They are in some measure connected by a chain of flats which stretch a mile to the northward of the Pedra, and half a mile to the southward of the Virginie. At a mile to the westward of these islets 18 fathoms will be found on muddy sand; and as the depth increases to the southward the bottom becomes harder. The position assigned to the Pedra de Galha is $22^{\circ} 12' 37''$ N. and $16^{\circ} 54'$ W.

42. From thence S.S.W. $\frac{3}{4}$ W. 27 miles leads us to Cape Corveiro, and S.S.W. $\frac{1}{2}$ W. 57 miles further to the shoulder of Cape Blanco. The coast is moderately high and nearly straight, with but few trifling indentations. As far as Cape Corveiro it is one continued stretch of white sand, rising in some places into peaked hills, in others gently sloping to the sea, here and there a few cliffs, and the whole without the least appearance of vegetation.

At the south side of a sandy beach 5 or 6 miles long, called *St. Ann's Bay.*

St. Anns Bay, the irregular summit of one of these cliffs forms a striking contrast with the uniform smoothness of the adjoining coast. It is about 5 miles in length ; and its most salient point, though not very well defined, is called Cape Corveiro, the latitude of which is $21^{\circ} 47' N.$ A muddy bottom prevails near the cape, and all this part of the coast is perfectly safe. The strength of the current along the shore is nearly a knot, but further out to sea much less.

Cape Corveiro. To the southward of Cape Corveiro the coast consists of white and red sandy slopes, assuming various shapes, alternately terminating at the water's edge in broken cliffs, or in low sandy beaches, on which there is a heavy surf. In running along the coast, at 25 miles to the northward of Cape Blanco, we perceived from the mast-head Levrier Bay over the isthmus which connects that cape with the main land ; and at 5 miles N.W. $\frac{1}{2}$ W. from Cape Blanco there is a high sandy shoulder projecting from the line of coast, which has often been mistaken for that cape.

*Cape Blanco
(South).*

43. Cape Blanco is a white cliff, about 150* feet high, terminating a sandy promontory of 23 miles in length. The cliff rises vertically from a gentle slope which extends from its base to the sea, and with the above-mentioned high shoulder forms West Bay, with its broad beach of white sand, interspersed with cliffs. Through one of these cliffs the sea has perforated a large hole, which may be seen at some distance. The anchorage in this bay (as well as on the whole coast from Cape Corveiro) is clean ; a bottom of muddy sand prevails throughout, with a depth from 12 to 19 fathoms ; and large vessels may go so far in as to be sheltered from a N.W. wind.

Levrier Bay.

The long promontory of Cape Blanco forms on its eastern side the very extensive Bay of Levrier, being 25 miles from north to south, and nearly 20 miles wide.† The winds which prevailed during the Baron's examination of this bay did not permit him to do more than to fix the edges of the great shoals which project from the eastern side to within $1\frac{3}{4}$ miles of Cape Blanco, nor to proceed to Arguin Isle, where the French had formerly a settlement.

44. Commander Belcher, also, in H.M.S. *Ætna*, in 1831, cur-

* Commander Belcher describes it as being only 75 or 80 feet high.

† See Plan.

sorily surveyed Cape Blanco and part of the adjacent coast, of which he gives the following description :—"Cape Blanco is a perpendicular cliff of not more than 75 or 80 feet above the level of the sea ; it is composed of strata of calcareous grit of varying hardness, and its surface is quite barren. It presents a front of about a quarter of a mile, which stands nearly east and west, with a dry beach extending to the eastward of the cliff a short cable's length, and so steep that at 50 yards from it there are 7 fathoms water. From its western point a shoal spit projects S.W. about a quarter of a mile, with 3 fathoms on its extremity. Cansado Point, the south point of Repose Bay, *Cansado Point Repose Bay.* is 5 miles N.N.E. $\frac{3}{4}$ E. from Cape Blanco, and Flore Point is 4 miles further, in nearly the same direction. This bay, which is about 2 miles deep, has from 5 to 2 fathoms water, but affords very little shelter from the N.E. winds, which blow here with great violence, and are loaded with minute sand, which is most injurious to the eyes." The $\text{\textcircled{E}}$ tna rode very uneasily in this Bay of Repose, and parted one of her chain cables ; even with a light breeze there is a troublesome sea, and it did not appear that on the eastern side of the cape there was any one anchoring berth which could be called a place of repose, or convenience. It is certainly sheltered from N.W. and N.N.W. winds, should they blow, but the Canary people who fish here assert that N.N.E. and N.E. winds constantly prevail, and that those winds, and the sea therewith, are considerably heavier than those from without the cape, and therefore, though there is certainly anchorage in Levrier Bay for vessels of any size, yet Commander Belcher recommends their taking up the outside anchorage in West Bay, where the Canary fishermen resort, in preference to any he could find to the eastward of the cape. There is less swell there, abundance of fish to be taken by the hook, and little chance of losing an anchor ; and should a strong westerly breeze set in they will still have the option of going inside for shelter.

One of the great banks which choke up the eastern side of *Levrier Banks.* Levrier Bay approaches Cape Blanco, within $1\frac{3}{4}$ miles on the bearing of east, with only $2\frac{1}{2}$ fathoms on its edge, but it leaves a safe channel of 7 to 12 fathoms deep, between it and the steep beach of the cape.

To make Cape Blanco, run down the latitude of $20^{\circ} 52' \text{ N.}$, *Cape Blanco.* in which parallel the shore may be approached, to the depth of

15 fathoms in the thickest weather. At that depth the land should be visible, and the surf may be heard a mile and a half from the shore. If the weather be very thick, anchor ; but if the cape be seen, steer so as to pass at a mile distance, in order to avoid the long spit with 3 fathoms at its end, which runs off to the S.W. When the eastern angle of the cliff, the upper part of which overhangs like an open mouth, comes fairly in sight, haul in towards the steep sandy beach ; it may be given a berth of less than a cable's length, but be careful not to approach it so near as 7 fathoms water, which will be half the length of the vessel ; the depth of 12 fathoms is a prudent distance. Should the wind hang north-easterly, and that a board to the eastward is necessary, tack in again as soon as there is sufficient room, and upon no consideration decrease the depth of water in standing to the eastward to 9 fathoms, as the next cast will probably be $2\frac{1}{2}$. In such cases it would be more prudent to anchor outside, and to wait till flood has made. A short board then, with a topsail to the mast, in 14 or 15 fathoms, will carry her to the anchorage, which with a flood tide running, should be taken as soon as the west point of the cape is well shut in, and that the eastern cliff again shows open jaws. The best anchorage will be in 10 or 12 fathoms, but no mud will be found short of Cansado point, where an advantageous berth may be taken in 8 fathoms.

To beat up to Cape Blanco from the southward with the customary N.E. winds, Commander Belcher recommends the standing off on the starboard tack, during the flood, and in-shore with the ebb, because the outer ebb sets northerly, and when closing the land, the ebb will be rather on the lee-bow. Do not, however, stand in past the last quarter ebb, unless it be the intention to drop an anchor, for with light winds a dull sailer will not stem the tide and current. Whenever Cape Blanco can be brought to bear E.S.E., stand boldly in towards the land, but if bound to the inner anchorage, do not attempt to round the cape against an ebb tide, for unless the breeze be strong westerly few vessels could get beyond the steep sandy beach. Better anchor on the west side of the cape.

*Bayadere
Shoals.*

45. The Bayadere shoals lie off the pitch of Cape Blanco ; they were not minutely examined, but seemed to be extensive, and though the least water found on them was $4\frac{1}{2}$ fathoms, yet

their heavy overfalls were plainly seen during the ebb tide. The directions given above for rounding the cape leads well clear of them to the north.

The latitude of Cape Blanco, by meridian altitudes of 21 stars, north and south, is $20^{\circ} 46' 27''$ N., longitude, by six chronometers, $17^{\circ} 5' 40''$ W.

46. The tides about Cape Blanco are irregular and their *Tides*. direction is much influenced by the form of the land. High water at full and change may be looked for about noon. The greatest rise under every advantage of springs and wind does not exceed six feet. At the *Aetna*'s position eastward of the sandy point the course of the flood was N.E. b. N., and the ebb S.W. b. S., at the rate of $1\frac{1}{2}$ to $1\frac{3}{4}$ knots. Two miles east of the ship they ran N.N.E. and S.S.W.; and $1\frac{1}{2}$ miles to the southward of the cape, the flood ran S.E. and the ebb W.S.W. $2\frac{1}{2}$ knots. Off the coast to the northward of the cape, the flood sets south and the ebb north; and close in shore the stream is considerably weaker than at 3 miles distance from the land.

47. It has been already said, that the prevailing currents set to the southward along the whole of the West Coast of Africa. Along the whole of the western coast of Arguin, this direction is constant, and even during the rainy season the exceptions to this rule are rare. In July the wreck of the *Meduse* French frigate, drifted 90 miles in thirteen days, and was found at 15 leagues from the shore nearly on the meridian of the place where she was lost.*

48. Our knowledge of that great bank is still very vague and imperfect; with the conformation of its outer edge we are, thanks to M. de Roussin, tolerably acquainted; and we think that no sensible alteration takes place in that edge, owing to the steady current which passes along it; but of the interior of the bank, or the channels by which it is split or crossed, or of the shape of the coast, or of the supposed Arguin Island, the Bay of St. Anne, and the river of St. Jean, we are altogether ignorant.

The Bank of Arguin may be said to be a continuation of *Arguin Bank*, the broad shoal which fills the eastern side of Levrier Bay, and to extend from thence to the southward of Cape Mirik, a

* See West Coast of Africa, Sheet 5.

Arguin Bank. distance of about 90 miles, its extreme breadth being about forty miles, and its western elbow lying in $17^{\circ} 10' W.$ It is apparently a flat and very hard sand, but generally covered with broken shells.

Its outer edge, which has been traced from numerous soundings, has been placed in the chart at the depth of 7 fathoms, as no vessel can run within this depth without risk, and as at a very short distance to the eastward of this line there are less than 6 fathoms. The general direction of this edge to the northward of $20^{\circ} 0' N.$ is S.W. b. S.; and to the southward of that latitude at Mirik, about S. b. E. No part of the edge of the bank has been seen dry, but close to the breakers which occur in many places there are but a few feet of water, and the shallows between them do not appear to carry more than 10 feet.

In coming from seaward, when to the northward of $20^{\circ} 0' N.$, the soundings gradually decrease to the above edge of the bank from about 10 leagues to the westward, where 40 fathoms will be found. To the southward of this parallel the bottom becomes more uneven, and from the spot where the Meduse was wrecked, in $19^{\circ} 53' 42'' N.$, and $17^{\circ} 1' W.$, a still greater irregularity takes place in the depth. The nature of the bottom outside of the Bank of Arguin observes a remarkable law, which will be of some service to navigators who are obliged to approach it. From the 7-fathoms edge of the bank, out to the depth of 25 fathoms, and thus including a belt of more than 15 miles, the lead invariably brings up a mixture of sand and broken shells, and in proportion to the proximity of the bank the shells prevail; while beyond the depth of 25 fathoms and as far as that of 50 fathoms the bottom is entirely of white sand. Hence it is evident that by the soundings and by a rough observation for latitude a vessel may always know her distance from the Bank of Arguin. For example, should she, in the latitude of $20^{\circ} 20'$, find 23 fathoms with sand and broken shells, she may safely infer that the dangerous edge of the bank is not more than 22 miles to the eastward, and likewise that Cape Blanco bears about N.E. b. E. $\frac{1}{4}$ E. distant 28 miles. To the northward of $20^{\circ} 20' N.$ this law is uniform, but to the southward of that parallel it is subject to some exceptions; and there, the best advice to give the seaman is to keep his lead going, and not to shoal his water to less than 25 fathoms; but as the bank then

takes a direction S. b. E. $\frac{1}{2}$ E., it becomes no longer dangerous *Arguin Bank*, if a ship is kept on a wind in 20 to 25 fathoms, and sounds frequently. In any case, however, we would recommend to the mariner a strict attention to frequent sounding as indispensable while in the neighbourhood of this extensive and fatal bank.

49. Commander Belcher seems, indeed, to have some doubt *Roussin's Law*. of the strict uniformity of the remarkable and apparently useful law, above quoted from M. de Roussin's work, as appears by the following extract from the *Aetna's* sounding book.

"Our sounding book contains the following series of depths, commencing at that of 40 fathoms, to the S.W. of Cape Blanco, on the 23rd of June :—

h. m.	fms.	
At 5 0 A.M.	38	sand and broken shells.
6 0	40	dark greenish sand.
6 30	35	ditto.
7 0	32	dark greenish sand and broken shells.
7 30	30	ditto ditto.
8 0	30	brown sand.
8 30	29	ditto.
9 0	25	coral and sand, apparently from rock.
9 30	21	dark grey sand and broken shells.
10 0	21	gravel and shells.
10 30	21	fine broken shells.
11 0	20	ditto.
11 30	20	sand and broken shells.
Noon, lat.		20° 36' 44" N. long., 17° 10' 11" W.
		19 dark grey sand and broken shells.
1 0 P.M.	$18\frac{1}{2}$	fine brown sand (shells barely detected).
1 30	$14\frac{1}{2}$	coarse broken shells, no sand.
1 40	$13\frac{1}{2}$	small broken shells and sand.
1 50	12	sand, few and minute tender shells.
2 20	$10\frac{1}{2}$	fine brown sand, shells barely detected.
3 0	$5\frac{1}{2}$	fine white sand; the Cape bearing N. 19° E., distant 1 mile."

"This merely is a line of soundings on that day ; but on reference to those of the preceding day it will be seen that they are of the same complexion.

"These soundings go far to throw some doubt upon this

Arguin Bank. remarkable law, and within the very limits where the Baron insists it is most to be relied on.

"But whether this remarkable distinction in the *quality* of the soundings be correct or not, the *depths* will be sure guides, and unless actually bound to the Cape no vessel has any business within 15 fathoms by day, and 25 by night, especially to the southward of 20° 0' N. Vessels in the vicinity of this place should frequently feel for the bottom with 40 or 50 fathoms of line."

The *Ætna*, standing in towards the bank near the place where the *Meduse* was wrecked, suddenly shoaled to 7 fathoms ; and in standing off found the depth decrease to 5 fathoms, in which she continued for a quarter of an hour, then deepened to 16, and as suddenly found no bottom with 100 fathoms. The current and tide probably set strongly on the bank, as subsequent experience proved they did, so that the ship scarcely stemmed them, and thus accounted for her long detention in 5 fathoms.

Cape Mirik. 50. Cape Mirik, in lat. 19° 23' N., long. 16° 33' W., is a very low sandy point near the southern termination of the great Bank of Arguin, and by some of the shoals of which it is effectually barred from the approach of all large vessels.

Tanit Bay. From thence the coast runs S.S.E. $\frac{1}{4}$ E. 9 leagues, where it forms a sudden angle called Tanit Bay, and then turns S. b. W. It is all low, and a continued chain of small regular sandy downs, very white, and interspersed with small bushes. A few huts are in some places seen near the beach, and in the dry season numerous parties of the vagrant tribe of Moors before mentioned assemble here to catch fish, and to dry their annual stock. Two large pieces of water were observed between the high downs, but whether they were fresh or salt was not ascertained for fear of collision with those barbarians.

Angel Hillocks. 51. From Tanit Bay the general direction of the coast is S. b. W. for an extent of 12 leagues, and includes some flat sandhills, which are rather higher than the rest of the coast, and have been dignified with the name of the Angel Hillocks. They are divided into two groups ; the northernmost, which are smaller than the others, are studded with tufts of brushwood ; while the eight or nine hummocks of the other group are nearly bare. The southernmost and highest hillock is in

18° 29' N. To the southward of these Angelic Hills the shore gradually becomes lower, till it sinks into a uniform line of sand scarcely above the level of the sea, and carrying here and there a bush.

No part of this coast, from Cape Mirik, should be approached to a less depth than 8 fathoms ; by attending to which rule all dangers will be avoided, and amongst others the Angel Bank, *Angel Bank.* a shoal flat which spreads out 7 miles from the beach, abreast of the Angel Hillocks. It affords, however, a convenient anchorage for small vessels.

At 4 leagues to the southward of the above hillocks, and a little inside of and higher than the beach, there were once two famous palm trees standing close together, and the only ones seen in the long interval of coast between Cape Bojador and Senegal : one of these trees has lately been blown down, and *Stump Palm.* the other broken, so that now but a single stump remains. It stands in 18° 19' N.

52. About a mile to the southward of the above venerable *Portendik.* stump is the site of Portendik, one of the places to which, by the treaty of 1783 with France, the English gum trade was confined. Lieutenant W. H. Quin, in 1834, was sent in H.M.S. Britomart, to enforce our privilege of collecting and embarking the gum there, and he then made a slight sketch of the place, which has been published.* The coast is a continuous line of sand, with a few hillocks and some scattered bushes, but all so low that nothing can be seen in the clearest weather at a greater distance than 9 miles. No vestige could be found of the former settlement ; and the huts, which were hastily constructed by the Moors, consisted of loose bushes only, and were not more than 4 feet high ; but they answer the temporary purposes of the traders who bring down their gum, or of the fishermen who find here an abundant harvest.

The roadstead is abreast of a little shoulder in the beach, and between two banks of sand and shells, lying in a N.N.W. and S.S.E. direction, with from 2 to 2½ fathoms water on them. The northernmost, or inner bank, is a mile long, its south end being a little more than a cable's length from the shore, near the landing-place, where the Moors generally erect

* See Plan.

Portendik.

their huts. About $1\frac{1}{4}$ miles W. $\frac{1}{4}$ S. from the same shoulder of the beach lies the north end of the outer bank, which extends from thence about 2 miles S.S.E. The depths in the roads are from 4 to 5 fathoms on sand and shells, and vessels may anchor where most convenient according to existing circumstances ; but the three English brigs which he found taking in their cargoes were lying in 4 fathoms about a quarter of a mile S.S.W. from the huts, and 2 cables' lengths to the southward of the inner bank. The Britomart lay in 5 fathoms, $1\frac{1}{4}$ miles W. $\frac{1}{2}$ S. from the landing-place, with the stump palm about E. b. N.

The stump palm not being visible at a greater distance than $1\frac{1}{2}$ or 2 miles, vessels going to Portendik from the northward should make the Angel Hillocks, and then run along shore in about 5 fathoms, with careful attention to the lead. Captain Septimus Arabin remarks, that in $4\frac{1}{2}$ or 5 fathoms, at 4 miles from the beach, and the Angel Hillocks N.E. b. E. is a good place to anchor with a view to any communication with the natives.

Tides at Portendik.

53. On full and change of the moon it is high water at 10 o'clock. Spring tides rise 6 feet.

Marigots of Senegal.

54. From the stump palm the general trend of the coast is between S. b. W. $\frac{1}{2}$ W., and S. W. $\frac{3}{4}$ S., and about 35 leagues to the northernmost of the Marigots, or the little-channels which carry off the overflowings of the Senegal river in the rainy season ; this one is called the Mosquito Marigot, and its mouth is in latitude $16^{\circ} 35' 24''$ N. The whole of the coast is low, nearly level, and interspersed with small bushes. Two patches, however, may be perceived of red sand, partly covered with brushwood ; but they are only discernible within 2 miles of the beach : one is in latitude $17^{\circ} 25'$, the other in $16^{\circ} 55'$ N. From the mast-head some sheets of water were observed at the foot of these elevated patches ; and at 6 miles further to the southward the interior appears to be a little clothed with brushwood, but the coast remains uniformly barren. At the distance of 2 or 3 miles from the beach there are regular soundings from 12 to 6 fathoms on a bottom of fine sand, occasionally mixed with mud, and affording a ready anchorage.

Mosquito Marigot.

55. Mosquito Marigot is about 12 leagues to the northward of St. Louis. When the rains have swollen the Senegal river,

the bank at the entrance of this Marigot is covered, and may be passed over by boats, but always through the heavy surf which is common to the whole coast of Africa.

56. To the southward of this Marigot, the basin of the Senegal *Senegal River.* is only separated from the ocean by a narrow tongue of sand, which gradually lowers towards its southern extremity, called *Barbarie Point.* Within this tongue of sand the divided stream of the Senegal forms a number of small islands, on which a covering of bushes gives the country some appearance of fertility.

The names of these islands are Bequio, Gazelles, Bifeche, *Senegal Islands.* Griel, and Thiong, which last is nearly in contact with the island on which the town of St. Louis is built. Griel island, or as it is called there, le Bois de Griel, contains some trees the verdure of which offers a singular contrast to the 200 leagues of desert which precedes them. On either side of this green tuft, the stream of the river may be seen from the mast-head over the sandy ridge ; and it is the surest mark for indicating the landing-place to the northward of the bar. Along this part of the coast vessels may run at the distance of two miles from the beach, in from 12 to 8 fathoms, over a clear bottom of compact green clay.

57. A little further to the southward will be seen the French *St. Louis.* establishment of St. Louis, with its white buildings, and a very high palm tree, which may be perceived long before the flag on the fort, though close to each other. The narrow island on which the town stands, is little more than a mile in length; the principal channel is on its eastern side, and the western one is so narrow, and its right bank so low, that from the offing the town appears to stand on the sea shore.

The flagstaff in the Fort at St. Louis, is in $16^{\circ} 0' 48''$ N. and $16^{\circ} 33' 6''$ W. of Greenwich ; and there is a small light *Light.* shown from the Government House.

A few huts were formerly built on the narrow strip of sand opposite the town, by the negroes whose business it was to communicate with vessels arriving from seaward : those huts checked the shifting sands, and the little mound thus formed has ever since been accumulating.

To the southward of this place stands the present village of *Guettander.* Guettander, with a battery ; and from thence a canoe is imme-

dately launched on the approach of a vessel. The anchorage off the mouth of the river is about two leagues from the village, and should be taken, according to the time of the year, in 6 or 13 fathoms, or in other words at 2 or at 5 miles from the bar.

Bar of the Senegal.

58. The mouth of the Senegal is not perceptible when coming from the northward; the huge surf which prevails upon the whole coast, and which therefore breaks off Barbarie Point, prevents the surf on the bar from being distinguished; and vessels might pass without seeing it if they should keep at too great a distance from the shore. But from abreast of Guettander they may safely run along it at the offing of a mile, and at that distance everything will be distinct. A signal-mast on a little islet in the middle of the river called Ile aux Anglais, and a square guard-house with another signal-staff on Babaguè Island, a short distance inside of the bar, will be seen in passing; and when this guard-house bears E. $\frac{1}{2}$ S. the vessel may anchor; but as the wind generally hangs to the northward, it is advisable to take a berth well to the northward of the bar, for the greater facility of communication with the shore.

In running for the Senegal from the southward, the mouth of the river is more easily perceived than from the northward, as it opens in that direction. At the distance of 10 leagues from the mouth, and on the parallel of 15° 26' N., a large red sandy elevation may be observed entirely bare, which to vessels ignorant of their latitude may serve to indicate their distance to the southward of the bar.

The position of the Senegal Bar is not stationary: the right bank of the Senegal, below St. Louis, is so low as to cover with very high tides, which sometimes act so violently as to open new channels, the present channel having been formed in this manner in February 1815. The northern point of the entrance, Barbarie Point, in 1817 was ascertained to be in 15° 55' 18" N., by M. de Roussin; but he says it is gradually advancing to the southward.

The dangers of Senegal Bar are well known to navigators; in the rainy season, and even up to March, the great volume of water which is poured out of the river frequently renders the bar impracticable even to decked boats. The waves of surf produced by the impetuosity of the stream meeting the ocean swell are so prodigious, and succeed each other so rapidly, that it is

impossible to find a quiet interval ; and it is not uncommon at *Bar of the Senegal.* these times to see them break in 7 fathoms at a mile outside the bar. From April to the end of September, the bar is almost always passable by decked boats, and sometimes even by open boats, but it is advisable that they should be managed by the natives. Vessels drawing more than 11 feet cannot cross the bar, and therefore none should be employed in trading with this place which are too large to enter the port, as the employment of lighters is expensive and tedious. Once fairly in the river, from 7 to 5 fathoms will be found, and with the assistance of the tide a pilot will speedily beat a vessel up to St. Louis.

59. Of the currents it has already been said that their general and almost constant direction is along the coast from north to south, as far as the mouth of the Senegal. Abreast of this river and for a space of several miles to seaward the powerful tides, both in and out, affect the general uniformity of the southerly current, and are often so strong as to bring the vessels in the outer road with their broadsides to the wind in the strongest breezes. And yet these outer tides have no very regular set ; the flood, however, generally runs E.N.E., and the ebb W.S.W. Anchoring in the road is, moreover, rendered very inconvenient by the long swell that prevails there in all weathers.

60. The winds are not peculiarly dangerous to navigation on *Senegal Winds.* the coast of Senegal. They veer between E.N.E. and N.N.W. during the greater part of the year, and in the rainy season, as the storms always come from the S.E., those vessels in the road which cannot depend on their ground tackle will find it easy to get under way. The S.W. winds which succeed being always feeble, they may return to their berths when the gale is over.

At Senegal, water, wood, beef, mutton, and poultry may be *Refreshments.* procured of a moderate quality, and not dear.

61. If a straight line were drawn from the Bar of the Senegal to the western point of Cape Verde its direction would be S.W. b. W. $\frac{1}{4}$ W., its length nearly 93 miles, and the versed sine of the intervening curve about 13 miles—scarcely entitling this gentle inflexion of the coast to the exaggerated depth ascribed to the Bay of Yof.

For 2 or 3 leagues to the southward of the Senegal the coast is as low as that to the northward ; and though it then becomes rather higher, it preserves throughout the same uniform appear-

Senegal Currents and Tides.

ance of a chain of white sandhills, with scattered brushwood and here and there a few dwarf trees.

Little Paps.

To the southward of the red sandhills, mentioned in Article 58, the coast does not present anything remarkable as far as the Little Paps, the northernmost of which is in latitude $14^{\circ} 56' 24''$ N. The Little Paps are the two highest sandhills which are to be met with between the Senegal and the Paps of Cape Verde. They rise from the beach, and are easily known by a slight undulation on their summit, and by three or four small hills to the southward. They are visible at the distance of 4 or 5 leagues. What is called the Bay of Yof commences at these Paps.

From the Senegal as far as the parallel of $15^{\circ} 20'$, at 2 or 3 miles from the coast, the bottom is mud, in 11 to 27 fathoms; and from thence to the southward the depth rapidly increases, as at two leagues west of the Little Paps there are from 57 to 62 fathoms. The same bottom continues, and is so soft that the lead sinks in it offering good anchorage to any vessel obliged to come to in consequence of calms.

Paps of Cape Verde.

The Little Paps bear about E. b. N. from the Paps of Cape Verde and distant 9 leagues. In fine clear weather both may be seen at once, as the Cape Verde Paps are visible 7 or 8 leagues. At that distance from the Cape the coast begins to rise and to show more wood, and the country about Cape Verde is covered with trees, amongst which there are several of considerable height. The bank here is steep, and all this coast may be approached to a very short distance. Within 2 miles of the village of Yof, near which there is a little island of that name, 49 fathoms will be found on a bottom of mud and sand.

Yof.

62. Cape Verde is the westernmost point of Africa; it is the extremity of a peninsula formed by Gorée Bay, and is moderately high land rising gradually to the two Paps, the southwestern face of which is nearly perpendicular, and is usually mistaken for Cape Verde at a distance.* The Cape itself terminates in low land, on which some unconnected hillocks at a distance might be taken for islets. Its latitude is $14^{\circ} 45' 0''$ N., and longitude $17^{\circ} 32'$ W. From its extreme point a ledge of black rocks, called the Almadic, extends a mile further out, and

Almadic Ledge.

* See West Coast of Africa, sheet vi.

is mostly awash, but in two or three places some of the rocks rise 8 or 10 feet above the sea. The westernmost of them has the form of a die, and stands in $18^{\circ} 44' 30''$ N. Three miles north of this rock there are 71 fathoms, mud and sand; a mile west of it there are 31 fathoms, shells; and though there is less water to the S.S.E., yet it may be affirmed that vessels may everywhere approach it within a mile. It is said that there are one or two openings through the ledge.

63. The prevailing currents between the river Senegal and Cape Verde follow the direction of the coast to the southward in the same manner as those already mentioned, and without any peculiar set into the Bay of Yof, as had been asserted, though perhaps a little more strongly from the effect produced by the exit of Senegal river.

64. From Almadic Ledge, Cape Manuel bears about S.S.E. $\frac{3}{4}$ E. distant nearly 3 leagues. The intervening shore is high, covered with trees, and generally terminates at the sea-side in basaltic cliffs or sandy rocks. In a few places the cliffs break down into small bays, with beaches of white sand.

Two miles N.W. b. W. $\frac{1}{4}$ W. from Cape Manuel, and a little more than half that distance from the coast, there is a group of four rocky islets called the Madeleines. The largest is shaped like a crescent, open to the westward, and about 300 fathoms in length. It consists of a hard red rock with some basalt, and destitute of any vegetation, though it appears that formerly a few baobab trees grew in its crevices. On its north side there is a very small creek which affords a landing-place. The sea breaks with great violence over the three lesser islands, and through the channel between them and the largest, in which there are upwards of three fathoms. Between them and the main there seems to be a safe channel of a mile in breadth, but no stranger should attempt it without previous examination.*

In approaching these islands from Cape Verde the soundings

*Currents off
Cape Verde.*

Madeleine Isles.

* Captain Belcher saw a line of broken water and strong ripplings extending from the Almadic Rocks to the Madeleine Islands, and strongly dissuades any vessel from attempting that inner passage; "the ground is certainly very irregular," he says; "the danger evident; and as nothing could be gained even by success," he advises "that no vessel should approach that bight to less than 14 fathoms."

vary from 30 to 17 fathoms ; and they may be passed within a cable's length.

Cape Manuel. Cape Manuel is high, formed of columns of basalt, and covered with thick brushwood ; at the distance of a pistol shot from its extreme point to the southward there is a depth of 7 fathoms, and at a cable's length to the north-westward of that point, and close to the beach, there is a small insulated rock.

Gorée Bay. The extensive Bay of Gorée, with the island of that name, immediately open on rounding Cape Manuel ; and as the water is everywhere deep, vessels bound to the island, which bears E. $\frac{3}{4}$ N. $2\frac{1}{4}$ miles from the Cape, may steer for it direct, if the wind permit.

Gorée Island. 65. Gorée Island is merely a rock of about half a mile in length, lying about north and south, and about 220 fathoms in breadth. It is a volcanic formation, similar to that of the Madeleine islets and Cape Manuel. The southern part, which is about 500 feet above the level of the sea, is the highest, and may be seen at the distance of 5 or 6 leagues ; and the rest of the island lowers rapidly to the north point. The landing-place is on the N.E. side of the island, between the above point and the back of the southern hill, in a small sandy bay.

Gorée contributes nothing towards either the subsistence or comfort of its inhabitants except water, and of that, though there are two springs, the produce is so scanty, and the quality so bad, that the chief supply for the inhabitants is brought from the village of Hann, on the continent, as well as their fuel, and all their provisions. Vessels, therefore, which put into Gorée, ought not to be disappointed if they obtain but a very limited stock of refreshments.

Gorée Road. 66. The roadstead is to the north-eastward of the island ; it is sheltered from all winds from S.W. to E., and is perfectly safe during eight months of the year, that is from the 1st November to the 1st July ; but during the rainy season the squalls from the south-eastward are dangerous. The best anchorage for large vessels in either season is at the distance of three-quarters of a mile N.E. of the landing-place, with Cape Manuel open to the westward of the island, where they will find 11 or 12 fathoms on stiff clay, and from whence they can conveniently get under way with the wind from any quarter. To reach this anchorage in the fine season, when the winds are from the

north-eastward to the north-westward, it is necessary to haul *Gorée Road*. close round Cape Manuel* and the south point of Gorée Island, and keeping by the wind on the port tack, with the lead going, to stand on till within a mile of the shore on the eastern side of the bay, and tacking there in 9 or at least in 7 fathoms. If not able then to fetch the road, make short boards along that shore, as the southerly current is less strong there, and sometimes even a northerly eddy will be found.

In the tornado season, from the above-mentioned berth, if the goodness of the ground tackle be suspected, a vessel may easily run out of the road ; for which purpose it will be prudent to veer away nearly to the end of the cable so as to be able to slip when everything is ready, and before the weight of the squall comes, accompanied, as it generally is, with a deluge of thick rain, neither of which would be very favourable to the expertness requisite on such an occasion. Having slipped, give the north point of the island a convenient berth,† and when to the westward of this point, whatever may be the violence of the squall, which is always from the S.E. b. E. or E.S.E., the island will afford sufficient shelter to enable her to keep the wind nearly a-beam till abreast the south point. Having reached thus far she may bear up nearly four points to W. $\frac{3}{4}$ S., and pass Cape Manuel. From thence the sea is open to her, and nothing to avoid but the Madeleines and the Almedic off Cape Verde, either of which may be passed within two cables' lengths.

A vessel intending to remain any time at the anchorage, should moor E.N.E., and W.S.W., as the eastern cable may be veered so as to bring an equal strain on both in the heaviest squalls.

The flagstaff of the citadel of Gorée is in latitude 14°39'55"N.; *Light*. longitude, 17° 24' 40"W.; a small light is shown there.

67. Commander Belcher, in his remarks on Gorée, after *Gorée Town*.

* If the wind be too far to the eastward to fetch close round Cape Manuel, Commander Belcher recommends making short tacks up to it from the Madeleine Islands, in order to avoid the strong S.W. current which always sets out as soon as Gorée Island opens.

† Commander Belcher says it is imprudent to pass the rocks off this point in less than 7 fathoms ; and gives as a reason for anchoring so far from Gorée as 11 or 12 fathoms, the facility of casting clear of this rocky point.

Gorée Town. confirming all the above judicious directions of M. de Roussin, adds, “At the landing-place there is a wooden jetty; but boats should nevertheless have an anchor and cable with which to veer in, as an awkward swell that frequently tumbles round the point might stave them if this precaution be not adopted. The town of Gorée at present (1831) is in a miserable condition. It is supplied from the main with cattle, poultry, wood, and all the necessaries of life; water is certainly to be had on the island, but scarcely enough for the population, and that of the most repulsive quality. The supply for the garrison is brought from

Hann Bay. the Bay of Hann, where some wells have been worked. It is drinkable only when it has passed through the filter, but answers well enough for culinary purposes; and we took a quantity of it to sea for that purpose, in order to save our English water. The Hann water was very soft, and gave the idea of being stagnant, though in fact it flowed into the wells as fast as it was dipped out, and would have furnished a considerable demand. The soil which surrounds these wells is a dark-coloured mud, and a brackish stream passes within 50 feet of their walls.

Fish. “The seine may be used with great success in Hann Bay; we took in one haul more than could be consumed, and all of the finest quality—large scale fish, called on this coast Drummers—and also large quantities of mullets. Shell fish are abundant, but are generally bought up by the collectors for the town. The bay abounds likewise with fish which took bait freely from the ship, and were even better flavoured than the produce of the seine—chiefly a kind of rock cod, and a species of the amber fish of Bermuda.”

Dacar Point. 68. Dacar Point lies about $1\frac{1}{2}$ miles to the northward of Cape Manuel, and a little less to the westward of Gorée; and N.E. $\frac{1}{4}$ E. 2 miles farther is the long sandy Point of Belair. The village of Dacar stands in the southern part of the intermediate bay; and the negroes, by whom it is inhabited, supply the vessels off Gorée with wood for fuel, at the rate of 20 shillings for the cord; and with small bullocks for six or eight dollars each. Merchant vessels may procure clean ballast at Dacar Point.

Fire Wood. Bullocks. Hann Bay falls back from Belair Point, and the watering..

place mentioned in the last article is about a mile N.N.W. from that point.

69. Nearly a mile to the eastward of Belair Point, and *Belair Shoal*. N. b. W. $\frac{1}{2}$ W. 2 miles from the north point of Gorée, there is a shoal patch of about $1\frac{1}{2}$ cables in length, lying nearly East and West, and carrying only 9 feet water on it, but with 3 to 4 fathoms close to it. Vessels going from Gorée Road to the watering-place in Hann Bay must avoid it by passing to the eastward of it in $6\frac{1}{2}$ fathoms, at $1\frac{1}{2}$ miles from Belair Point, or between it and that point, at little more than half a mile from the latter, in 4 fathoms. The anchorage is about half a mile from the watering-place, in 21 feet, or nearer in, according to the vessel's draught of water.

Clearing marks for the above shoal are much wanted, and the whole of Gorée Bay ought to be surveyed and sounded; but M. de Roussin's minute examination of the coast seems to have ceased here, and from the cursory notice that he bestows on the eastern shore of the bay we only learn that vessels may run along it at the distance of 2 miles as far as Cape Naze, with soundings varying from 7 to 13 fathoms, on a bottom of muddy sand or of sand and shells.

70. From Gorée Bay, he says, the coast rises a little at some miles inland from the low white sandy strand. In advancing to the S.E. the sandhills progressively rise, and are covered with trees as far as Cape Naze. This cape ends in cliffs of *Cape Naze*, about 1200 feet in height, the woody summit of which may be seen at a distance of 7 or 8 leagues, in fine weather. On the coast towards Cape Naze, in the interval between it and Hann Bay, several negro villages will be seen, which are frequented by the coasting vessels of Gorée, who trade with them for stock. Cape Naze is in latitude $14^{\circ} 31' 30''$ N.

71. Here we part company with the Baron de Roussin, to whom we have been indebted for the major part of this chapter, and the following notices are chiefly extracted from Commander T. Boteler's account of his proceedings when surveying certain parts of this coast.

72. Gombaroo Point is S. $\frac{1}{2}$ E. 3 miles from Cape Naze, and *Gombaroo Point*. to Portudal it is S.S.E. $\frac{3}{4}$ E., 3 miles further. This village *Portudal*. has a bank lying off it about a mile wide, which in some parts nearly dries at low water; but there are 3 fathoms between it

and the shore reef, 4 fathoms close to its West side, and 9 fathoms $4\frac{1}{2}$ miles off.

Refraction along this heated coast.

73. The latitude of Portudal village, by observations made on shore with the artificial horizon, was $14^{\circ} 27\frac{1}{2}'$ N., while that obtained on board differed from it some minutes ; and navigators should constantly bear in mind that the extraordinary refraction produced by the heated atmosphere along this whole coast is a continual source of error not only in their latitudes but in their chronometric longitudes ; and one against which they can make no provision, as the altitudes of the sun are as often found to be too little as too great. Their only resource will be by checking the observations made in the day by altitudes taken at night of the stars and planets. And not only is the seaman thus puzzled in making his landfall, or in recognising a headland, by means of the latitude, but he is exposed by the same cause to another very serious deception ; for this violent and ever-varying refraction, sometimes amounting almost to a mirage, renders it impossible to make a correct estimate of the distance of the land. In this case he may indeed have recourse to the lead as a considerable breadth of bank extends from most parts of Western Africa ; or, when any length of coast is in sight, cross bearings will afford an immediate solution of his doubts : and in certain situations, the change of bearing, at each end of a short distance measured by the log, will give a close approximation to the real distance. Still he should be on his guard against this species of fallacy, for at times the distant shore will be raised up and brought alarmingly close to the vessel ; and at others, the really near land will appear sunk and removed to such a distance as to impose upon the most practised and experienced eye.

Serine Point.

74. From Gombaroo Point to Serine Point the bearing and distance are S. b. E. $\frac{3}{4}$ E. 15 miles, the coast embaying a little, with a couple of villages, and in front of them some rocky patches with shallow, irregular soundings, 3 or 4 miles in the offing. All this flat and foul ground is connected with the

Amboro Bank.

Amboro Bank, which projects W. $\frac{1}{4}$ N. nearly 7 miles from Serine Point. The western part of this bank is a crooked reef lying about N.E. and S.W. and $4\frac{1}{2}$ miles in length. Its western angle is awash, and on other parts of it the sea always breaks in bad weather, or shows a strong discoloured line of water.

There are 4 fathoms close to its outer edge, and then a narrow *Amboro Bank*. flat of 5 fathoms, but no vessel should approach it nearer than 6 fathoms. Its inner edge is from 3 to 4 miles from the shore, leaving a navigable channel between them for vessels of small draught at all times, and even for large ships, in a case of great emergency. This inner channel is generally adopted by coasting vessels in beating up to the northward, as they find there smoother water and less current; and their people are well acquainted with those tints upon the sea which indicate open or shoal water. As for marks,—none are to be had on this coast,—but there is no danger in standing in towards any part of the shore, provided the lead be kept in motion, and that the vessel be kept in 6 fathoms, which is at least a mile outside of any danger.

75. At spring tides, high water rises 6 feet on these banks, *Tides*. and takes place on the full and change days about a quarter past 8 o'clock.

76. The village of Serine is close to the point; and 7 miles *Joal Point*. S. b. E. from it Joal Point forms the southern boundary of a slightly embayed part of the coast, along which there are several shallow banks extending nearly three miles from the beach. Outside of them, however, and to the southward of the Amboro Bank, the ground shoals regularly up to the line of 5 fathoms.

A shoal called the Joal Patches surrounds this point, and at *Joal Patches*. its S.W. angle, which is $2\frac{1}{2}$ miles from the shore, there are some small spots that dry at low water; but all this part of the coast is under the control of the lead, and he who keeps in 6 fathoms will not be nearer than two miles to any danger.

Four miles S. b. E. $\frac{1}{2}$ E. from Joal Point there is an incon- *Tajooj River*. siderable stream, called the River Tajooj, the bar of which, at low water, is almost dry, and at high water is only passable by canoes and vessels under 6 feet draught.

77. Nearly 5 miles beyond this river there is a slight projection of the land, called Palmerin Point, with a two miles reef *Palmerin Point*. stretching from it to the westward; this reef, along with Joal Point, and a line $4\frac{1}{2}$ miles from the coast, includes what is called the Joal Flat, on which, though the general depth is *Joal Flat*. 2 fathoms, with some shoaler patches, the small coasting vessels freely pass in proceeding to the northward.

Jool Flat.

A straight uninteresting coast, with broad sandy beach, a single village, and the country covered with trees or brushwood, reaches for 15 miles from Palmerin Point to Punshavel Point, the northern limit of the great estuary which leads into the River Gambia.

CHAPTER III.

FROM THE RIVER GAMBIA TO THE ISLES DE LOS.

78. The opening of the River Gambia* may be said to extend from Punshavel Point to Bald Cape, a distance of 27 miles, on nearly a S.S.W. rhumb; but it soon contracts to 10 miles between Bird Island and Cape St. Mary, and to little more than 2 miles between Barra Point and the town of Bathurst. Immediately above the town it again expands to a breadth of 7 miles; at Dog Point it is 4, at Alreda 3, and at Moota Point $1\frac{1}{2}$ miles, gradually diminishing, till at Macarthy Island it is not a quarter of a mile across. This island is 235 miles above Bathurst, and though its course is very tortuous, and divided by several islands, yet this fine river is navigable the whole distance for large vessels.

Into the northern side of the estuary four other rivers empty their waters—the Salm, Joombas, Fellancy, and Jinnak; the two former being of considerable size, and bringing down large quantities of silt and sand, by which the Sangomar Bar and the Red Bank are formed.†

79. Sangomar Bar is the direct outlet of the Salm; it lies S.S.W., $2\frac{1}{2}$ miles from Punshavel Point, carries 2 fathoms at low water, and is about 2 cables' lengths across; and as the springs rise 6 feet, there is no doubt that vessels of considerable burden might load with facility in the river.

To the southward of this lies the Red Bank, or Bar of the Joombas; it is 5 miles in breadth from the mouth of the Joombas, and extends from the Sangomar Bar to Booniadoo Point, a distance of 18 miles, in which space it encloses Bird Island, and many very shallow ridges and knolls. Some of these dry at low water, and between others there is no doubt

*Salm, or
Sangomar Bar.*

*Red Bank, or
Joombas Bar.*

* See Chart of the River Gambia, in three sheets.

† See Plan of the Salm and Joombas Rivers.

*Red Bank, or
Joombas Bar.*

Joom Island.

Bird Spit.

*Approach from
the westward to
the Gambia.*

that with a sufficient object in view means might be found of buoying an approach to either the north or south channels into which the river is divided by Joom Island. There is one very dangerous spot on Joom Island, this bank being absolutely steep-to—from 4 fathoms to 4 feet ; and from its being on the extreme edge of the bank it lies very near the fairway track up the Gambia. Its position is W.N.W. $\frac{1}{4}$ W., $4\frac{1}{4}$ miles from the flagstaff on Bird Island, and may be called Bird Spit. The Red Bank is especially dangerous to approach during the Harmattan season ; because, in estimating the distance of the shore, the haze makes it appear further off than it really is. Soundings are no guide, as in many places the edge of the bank rises abruptly from a flat of 4 fathoms to less than 1 fathom, as at Bird Spit.

80. In proceeding towards the Gambia direct from seaward, the depth of 100 fathoms, fine dark sand, will be found at 50 miles west of Bird Island ; there are 20 fathoms at the distance of 30 miles ; and 10 fathoms at 17 miles, at which distance, if the weather be clear, the tops of the trees will be just discernible. As the low land on which they stand gradually rises, such sameness of feature and barrenness of objects prevail, that nothing but the wide open space of the river's mouth serves to indicate its vicinity to the navigator, till the flagstaffs on Bird Island appear. They may be discerned, in clear weather, at the distance of 10 miles ; and when once seen, they, and a cast of the lead, will determine the situation of the ship.

*Approach from
the southward.*

81. The approach to the Gambia from the southward is equally safe to that which has just been described from the westward, and either should be preferred by a stranger to making it from the northward. The only danger to encounter is the Bijjols, on which, at all times, the sea heavily breaks ; and as the adjacent land is high, a good estimate may be formed of its distance. Besides, as it is in some degree a lee shore, a vessel could tack and stand off and on, till familiar with the objects, and would thus be more likely to avoid danger than by running along a flat shore with a flowing sheet. And independent of these advantages, there is one safe and certain guide, which is, not to approach the shore nearer than the depth of 6 fathoms ; observing, also, that the nature of the bottom

differs from that to the northward, the sand being softer, with *Approach from the southward.*

82. The Bijnjols, which we have just mentioned, are two little islands, covered with grass, and surrounded by reefs of rocks, which extend 2 miles farther out, and on which the swell always breaks. Some of these off-lying rocks uncover at half-ebb, but there are 2 and 3 fathoms at a quarter of a mile from their western extreme, which bears W. $\frac{3}{4}$ S., 14 miles from Cape St. Mary, and nearly 5 miles W.N.W. from Bald Cape. The whole of the intermediate space is interspersed with sunken reefs, extending a considerable distance from shore, as will be seen by a glance at the chart. Bald Cape and the Bijnjols being thus passed, in not less than 6 fathoms, the next object is to approach Bird Island, in order to obtain a pilot. With a N.W. or N.N.W. sea breeze, a ship will easily fetch it, especially with an ebb setting out of the river ; but if the flood should have made, it will be proper to pass Bald Cape in 8 fathoms. If the weather be hazy, great care must be taken, with the ebb, not to overrun the distance, as it may sweep a vessel off to the Bird Spit before the flagstaffs are seen ; towards which every eye should be directed. If no difficulty occurs, and the staffs are made out, the best bearing to approach them is N.E. b. N., so as to lead clear of the Horse-shoe Bank, on which there are $3\frac{1}{2}$ fathoms, and which lies 5 miles West of the island. When within 3 miles of them, if the signal for a pilot has been kept flying, he will probably come off ; but as there are only two resident pilots there, they may possibly be both absent, in which case, if time presses, the following directions, by Captain Belcher, of H.M.S. *Aetna*, may enable any seaman, in fine weather, to carry his vessel to the anchorage off the town of Bathurst.

Horse-shoe Bank.

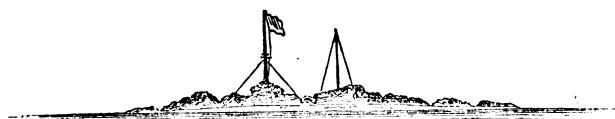
83. "The best latitude on which to approach the entrance of the Gambia is $13^{\circ} 33'$ N. The first soundings, when in a situation to look out for Bird Island, will be, according to the time of tide, in 5 or 6 fathoms, softish sand. Should mud be found, it will be proper to edge southerly, until a cast of sand, or sand and mud mixed, be obtained, which will be on the extreme limits of the bank, and about 10 miles from a shoal called the Middle Ground, but towards the southern side of the chan-

Bird Island. nel. From this position the Convalescent House on Cape St. Mary will be visible, and Bird Island will then bear about E.N.E. ; but E. b. N. should be made good until the flagstaffs on that island can be clearly discerned.

Remarkable tree. “ About the same time that Bird Island is perceived, a remarkable round-topped tree will be seen on the mainland to the eastward, between E. b. S. and E. b. N. ; it is one of the principal marks of the pilots, and is noticed in the chart about 3 miles inland of Booniadoo Point. Before bearing away for the channel, this tree should be brought to bear E.S.E. $\frac{1}{2}$ E., and Bird Island staffs N.E., with which bearings they will have the following appearance, the centre of the Rigged Staff being in one with a wild plum bush. The depth there will be $4\frac{3}{4}$ or 5 fathoms, at low water.

Bird Island.

Rigged Staff. Black Staff.



Bird Island. Plum Bush in one with Rigged Flag Staff, N.E.

“ From thence steer directly for the tree, or keep it just over the port cathead, until the two staffs on Bird Island are in one, about N. b. W.

Jinnak Creek.

African Knoll.

“ The mouth of Jinnak Creek will now be clearly seen to the left of the tree ; and the two projecting points of sand, A, and C, on its northern shore, in one with the intermediate projection from the southern shore B, as shown in the chart, and bearing about E. $\frac{1}{2}$ N., will clear the African Knoll to the northward. Pilots seldom attempt the channel to the southward of the African Knoll in vessels drawing more than 10 feet. Before bearing up for the channel, the line of the two staffs on Bird Island must be crossed to the eastward, and the Black Staff brought clearly to the left, or westward of the Rigged Staff.

Cape St. Mary.

“ Another confirmatory remark in clear weather (when within the Knoll) will be Cape St. Mary appearing as below, and bearing nearly S.W. b. W. $\frac{3}{4}$ W. If carefully watched, the point of this cape, on which the Convalescent House is situated, will suddenly change its appearance, from the circumstance of its shutting out a low sandy beach (which before rendered the

point undefined) so as to become a distinct point with the trees *Cape St. Mary.* to the horizon.

Convalescent House.



Cape St. Mary, S.W. by W. & W.

" Being now clearly within the African Knoll, the vessel may *Middle Ground.* be steered from Barra Point till past the Middle Ground. But it must be observed that both the ebb and flood of the main stream, as well as of the creeks, bear distinctly towards the Middle Ground and African Knoll, and therefore the Black Staff on Bird Island must be still carefully kept open to the westward of the other, as before directed. The tendency of those staffs to close, or not, will always show the actual set of the tide. The Middle Ground having been thus passed, and the lead kept going, steer so as to keep Barra Point flag-staff open on the port bow, and not to shoal the water under 6 fathoms, till Bathurst flag-staff is clearly visible. When it bears about S. b. W. $\frac{1}{2}$ W. it may be safely brought over the starboard cathead.

" Should the flood be running, bear in mind that abreast of *Bathurst.* Bathurst it sweeps up rapidly, therefore clew up, and prepare for anchoring east of the staff. The best berth is in 12 fathoms, *Anchoring Berth.* with the back and outline of the fort showing as the outer objects, and just clear of the merchant vessels.

" Nearer to the fort the holding ground is bad, but there need be no fear of tailing on the beach, as it is steep-to, and a vessel may ride (at the extremity of her scope) within 50 yards of the fort, without touching.

" The preceding directions are given to enable the mariner *Pilots.* to enter this river without the assistance of pilots, who sometimes delay coming off; but as they have been lately placed under better regulations, more regularity may be expected.

" The black additional staff on Bird Island was erected in the year 1831, as a mark for the African Knoll, and bears from the other S. b. E. $\frac{1}{4}$ E. (or S. 31° E. true), 210 yards. If this bearing-line be continued, it will cut the northern extremity of *Bird Island Staffs.*

Bird Island Staffs.

the African Knoll, and pass very close to the eastern elbow of the Middle Ground, but it will then clear all dangers up to Barra Point. The old staff is white, and has a topmast. The new, black, without topmast. When clearly seen, and within 4 or 5 miles, if the black one be kept well open to the right of the other, as in the view, the vessel will be clear of danger ; and so long as the lead gives mud, the channel is always safe.

Water.

“ Water is procured at Bathurst, but only by the consent of the merchants, all the wells being private ; but none obtained here can be pronounced good, except for culinary purposes.

Wood.

Better water may be had at Jillifree. Wood also is obtained at Jillifree ; or may be purchased at Bathurst with less risk,

Supplies.

and better calculated for a lasting supply—probably in the end cheaper than employing the crew. Provisions are as plentiful as on other parts of the coast, and there is a tolerable market every day at 10 A.M. at Bathurst, about 200 yards to the westward of the staff.”

Buoys.

84. To mark the channel into the Gambia still more distinctly, Government sent out two large buoys, which, in 1849, were laid down by Mr. Frederick R. Sturdee, master of H.M.S. Centaur, viz., a white buoy with a staff and cage, in 4 fathoms, on the edge of the Red Bank, on the following marks :—the Convalescent House on Cape St. Mary, south ; south end of Bird Island S. 61° E. ; and a small island north of Bird Island N. 52° E. On the African Knoll a black buoy with a staff and cage, in $3\frac{3}{4}$ fathoms ; the house on Cape St. Mary S. 59° W. ; Barra Point S. 23° E. ; and the eastern extremity of the town of Bathurst S. 2° E. It appears, however, that in 1851 these buoys were washed away ; the flagstaffs on Bird Island also have been blown down, and the wild plum bush (Art. 83) has also disappeared ; nevertheless, it has been deemed advisable to retain the preceding directions for entering the river, should these useful guides be at any future time replaced.

Departure from the Gambia.

85. The mode of leaving the Gambia must be pretty nearly the converse of the preceding directions, but it may be remarked, that the best time to weigh from Bathurst is on the last of the flood so as to gain the mid-channel before the full making of the ebb, which, as it sets directly down upon the Middle Ground, would in light winds make it necessary to anchor, in order to avoid it. This would occasion the loss of that day’s

tide, unless the sea breeze should come in sufficiently strong to *Departure from the Gambia.* enable the vessel to weigh again, and to stem the ebb ; and with that chance in view, if obliged to drop the anchor, it should be done sufficiently soon to preserve room for weighing. Further down the channel the sea breeze from north-westward is always a beating wind ; and even the land breeze, in the morning, is seldom sufficiently to the eastward to lead out without making a tack, especially as when it is most favourable it has the least strength, and consequently the tide will have the more time to exercise its influence.

After weighing, stand over towards Barra Point, and get as soon as practicable to the eastward of the line of the two flag-staffs on Bird Island. Keep the lead going, and make very short tacks off the bank, especially when you are so far advanced as to have the round-topped tree (Art. 83) bearing East, as near the African Knoll the set of the ebb tide is always the strongest. To avoid that Knoll, remember the rule about the Bird Island staffs, keeping the black staff to the westward of the rigged one till the tree bears E. b. S., or till the two projecting points of sand on the north side of the mouth of Jinnak Creek come in one with the intermediate projection from the southern shore, bearing about E. $\frac{1}{2}$ N. The ship will then be fairly to the northward of the African Knoll, and with the tree bearing E. b. S., a course out to sea may be at once shaped.

86. It is high water at Bathurst on the full and change days of the moon, at 8^h 10^m, but the stream continues to flow an hour and a half after the tide has ceased rising by the shore : the range of the tide varies from 6 to 9 feet, the latter being the effect of the freshes during the period of the rains. The velocity also varies much, and frequently without any apparent cause. The ebb thrown off by Barra Point sets strongly down upon St. Mary Shoal, while the main stream runs over the Middle Ground. Further out in mid-channel it sets directly to seaward ; but near the northern shore it is variously affected by the tides of the creeks, and of the rivers Joombas and Salm, before they unite and take the general direction of the coast.

87. From Cape St. Mary to Bald Cape is about 11 miles *Cape St. Mary.* S. W. b. W. ; and 2 $\frac{1}{2}$ miles further to the S. W. there is another projecting point, with a reef running about a mile out to seaward ; and with a rivulet of fresh water on its south side. From

Tides in the Gambia.

Cape St. Mary. this point it is 13 miles S. $\frac{2}{3}$ W. to the river St. Pedro, and from thence S. b. W. $\frac{1}{2}$ W. 32 miles to the entrance of the river Casamanza. The coast there trends S.W.b.S., South, and S.b.E. $\frac{1}{2}$ E., 16 miles to Cape Roxo, in latitude $12^{\circ} 20' N.$

The general colour of the coast about Cape St. Mary is variable, becoming whiter to the westward, and then reddish, and further to the southward changing into grey sands. Bald Cape may be readily known by a high tree in form like an umbrella, and a large square bush about half a mile further to the southward. Between Bald Cape and the River Casamanza the coast is very low, with a sandy beach covered with trees, which about the river St. Pedro appear like a continued forest, with lofty clumps resembling islands, when at a distance. The water, likewise, is very shallow, the bank suddenly curves outwards, and abreast of the River Souta in $12^{\circ} 44' N.$ and 17 miles from the shore, there is a 4 fathoms' bank of 5 or 6 miles in length.

Souta Bank.

Casamanza River. 88. Off the entrance of the Casamanza River, there are only 4 or 5 fathoms at the distance of 8 or 9 miles from the land ; at 10 miles, 7 or 8 fathoms ; and the 10 fathoms line of soundings passes at least 25 miles outside of its mouth.

Berrin.

Zinghinchor.

Cape Skyring.

For entering the River Casamanza we can offer no good directions ; any vessel bound to the French establishment, which stands on the north point of its mouth, must obtain a pilot from that place ; but so far we may state, that there appears to be two channels into it, one on either side of a large shoal which breaks violently, and which stretches 4 miles to seaward. The southern channel is said to be the deepest, but neither of them carries more than 3 fathoms. Thirty miles up the river on the southern bank, at Berrin, there is another French factory, and 9 miles farther on the same side, at Zinghinchor, the Portuguese have an establishment. A considerable depth of water may be carried up the river as far as that place, and the river is navigated by large schooners much farther. There are several well-cultivated rice plantations near the shore, and some scattered huts, but the inhabitants appeared very shy.

89. About 3 leagues to the southward of the River Casamanza, there is an elbow of low reddish cliffs which interrupts the beach, and which has been called Cape Skyring, in order to mark the place where the excellent and deservedly respected Commander of that name lost his life, on the 22nd of December,

1833, while he was engaged in the survey of this barbarous coast. Brought up in the best school of naval surveyors by Captains Smyth, King, and Hewett, and excelled by none in zeal, talent, or virtue, this promising and amiable officer fell a sacrifice to his over forbearance towards the savage tribe of Moors who surrounded him. The adjacent bight in the shore, where the boats were lying which rescued his mangled body, was of course called Murder Bay.

Murder Bay.

90. Cape Roxo*, when bearing about E.S.E., presents downs of white sand, moderately high and covered with bushes. Two or 3 miles to the northward of this cape the country is well wooded, and of a tolerable height, which it preserves for an extent of 3 leagues. On one of the points formed by the coast, there are several red patches, from which the cape has probably derived its name but the cape itself is a low sandy point, with trees and bushes.

91. Cape Barella, with its somewhat higher range of trees, *Cape Barella.* lies S.E. $\frac{1}{4}$ E., 8 miles from Cape Roxo, and half-way between them there is an indistinct opening in the beach, called Soobijack Creek. *Soobijack Creek.* Cape Barella appears to be a mixture of white sand-hills and reddish cliffs of clay, and from both these capes reefs of a mile in length project to the southward.

Jufung Point is 8 miles farther, the intermediate land being *Jufung Point.* very low, with the broken appearance of small rivers or creeks, and faced with a broad shallow flat. At that point the same low wooded coast turns to the eastward, as far as Bolola Point, from which Cape Mata bears S.E. $\frac{3}{4}$ E. 5 miles, these two latter points forming the entrance into the River Cacheo.

92. The triangular space enclosed by the shore and by lines drawn to the southward from Cape Skyring, and to the westward from Jufung Point, is full of shallow banks and irregular shoals on many of which the sea furiously breaks:—the *Coimbra Bank.* Coimbra Bank, 15 miles south of Cape Roxo; the Falulo Breakers, 6 miles farther on the same bearing; Barella Breaker, inside of the latter; and the Jufung Breakers, which stretch out 6 miles to the westward from Jufung Point. These may be called the northern group; while to the southward there are the Cacheo Spit, the Cacheo Bank, the Cacheo *Parcel,*

* See Charts of the West Coast of Africa, sheet VII.; and of the River Cacheo.

*Cachops,
Garamas,
Mata, and
Domingo
Banks.*

*Direct channel
into the Cacheo.*

Breakers, the Parcel Breakers, the Cachops Breakers, the Garamas Spit, and the Mata and Domingo Banks.

93. Between the above two groups there is a narrow and tolerably straight but dangerous passage, by which the river may be entered, and to which may be given the name of the Direct Channel. The point at which a vessel must lay her head to this channel is 13 miles from the nearest land about Cape Barella, and 16 miles from Jufung Point; and to make anything like a straight course through it, being out of sight of all marks, she will have to pass over several patches of 2 and $2\frac{1}{2}$ fathoms, at low water. As the highest tides do not exceed 7 or 8 feet, a vessel of a certain draught only can with any propriety attempt it; and her best manner of proceeding will be to run in for the land somewhat to the northward of $12^{\circ} 20'$ N. latitude, so as to distinguish the red patches between Capes Skyring and Roxo, but not approaching it into less water than 5 fathoms, nor to a less distance than 2 or 3 miles. Then steer between S. b. E. and S.S.E. till abreast of Cape Roxo, so as to see that point with certainty, for as its termination is low and sandy, and like the rest of the coast covered with bushes, it does not appear well defined at a distance. Having now that cape on the port beam, or bearing about E. b. N., a look-out at the masthead for broken or discoloured water, leadsmen in both chains, and being ready to haul out if they should call less than 4 fathoms, let her steer S. b. W. for 11 miles, making due allowance for the deviation of the compass, which, for such a navigation, ought to have been carefully ascertained at some convenient anchorage.

*Falulo
Breakers.*

During this course the leads will probably have told when she was passing over the tail of the Coimbra Bank, the heavy Falulo Breakers will be plainly seen, and at the end of the 11 miles she ought to be in the fairway of the channel, in $12^{\circ} 9'$ N. latitude, and in 6 or 7 fathoms water. At this point, however, it would be prudent to anchor, in order to verify the latitude by observation, or to wait for the sea-breeze, or to take the commencement of the flood tide; and, if practicable, to get out a couple of boats ready to send ahead with danger flags, in case of becoming entangled among the shifting sands which occur in the mouth of all rivers of this kind. These precautionary arrangements having been made, the weather

being tolerably clear, and an anchor ready to let go, with a *Falulo*
range of 10 or 12 fathoms, the vessel may steer E. $\frac{3}{4}$ S. For *Breakers*.
7 or 8 miles she will preserve the depth of 6 or 7 fathoms; the
Jufung Breakers, which may be seen on the port bow, will be *Jufung*
passed in 3 or 4 fathoms, at the distance of a mile or less; *Breakers*.
and their south-east sandy prong will have to be crossed in
2½ fathoms.* The water will now suddenly deepen, the land
will have been for some time in sight, and the high trees of
Bolola should be made out, and brought ahead, on the bearing
of E. $\frac{1}{2}$ S., and kept so till she is within about two miles of the
beach. Then alter the course nearly a point to starboard, but
still closing the shore, so as to keep in the deep but narrow
channel to the northward of the Domingo Bank, and run *Domingo Bank*.
parallel to the beach (off which some rude fishing weirs may
be observed), till the low point of Bolola bears N.E. about a
mile. If the vessel draw no more than 12 feet, she may at
once steer S.E. b. E. $\frac{1}{2}$ E. from thence, for Cape Mata, till she
reaches the main channel of the river; but if she requires
deeper water, it will be prudent to anchor, and send boats to
explore the best track across the bank or bar which unites
the Domingo Bank to Caton Flat. Having crossed this bar,
and now fairly entered the river, she may anchor in 6 or 7
fathoms, on good holding ground, between Bolola Point and
Cape Mata, or she may pursue her voyage to Cacheo or farther
up, according to the objects she has in view.

94. Such are the best rules we can give for entering the *South-west*
Cacheo by the Direct Channel, an enterprise requiring great
coolness and promptitude, and which should be attempted only
under favourable circumstances, and in a manageable vessel.
But as there is reason to believe that the banks which form
that channel are not stationary, and that they frequently
change both in shape and extent, it will be proper to give the
seaman the choice of another entrance, which, though more
circuitous, and equally surrounded by dangers, has somewhat

* There is a satisfactory rule which applies to the entrance of the Cacheo, as well as of all the rivers on this part of the Coast of Africa, and which the seaman should bear in mind; that in the channels the bottom is always soft mud, but on the banks always hard sand; and, therefore, that the lead in a careful hand will give immediate notice of any deviation from the fairway.

*South-west
channel.*

deeper water, and offers better opportunities for a retreat in case of unforeseen difficulties. To take this channel, make the land between Capes Skyring and Roxo, as directed in the beginning of Article 92; approach it within 5 or 6 miles, or into about 6 fathoms; run along shore till Cape Roxo bears E.S.E. $\frac{1}{4}$ E., so as to be sure of the ship's position; and then haul off to S. b. W. $\frac{3}{4}$ W., or due South by the chart (allowing for tide, current, and swell), and pursue this course steadily for 19 or 20 miles. If the deviation of the ship's compass be known, and the above allowances fairly made, she will at the end of this run be in the latitude of 12° 0' N., and in 7 or 8 fathoms water, and she will have passed well without all the banks, although the lead will probably show the change of a fathom or two, in crossing their tails. Here it will be prudent to anchor, in order to verify the latitude, and to wait for the sea breeze, for a flowing tide, and for sufficiently clear weather, as well as to make all those arrangements which were recommended for the former channel, and which are so necessary in such an intricate navigation.

Parcels.

Cachops.

Supposing that everything has turned out favourably, let her now weigh, and steer E.S.E. $\frac{1}{4}$ E., allowing for the oblique set of the flood tide, or so as to make a due East course by the chart for 15 or 16 miles. During this run the Parcels Breakers will probably have been discerned from the mast-head, and the Cachops will be more certainly seen in passing them at two or three miles on the port beam. The water will have been gradually shoaling so that by this time she will have reduced it nearly to 5 fathoms, and unless the weather should have become hazy, the low land will be seen ahead, and the Cayo Islands S.E. $\frac{3}{4}$ E.* The three points on which the mariner has to rely for a knowledge of his position are, the sight of the Cachops, the distant bearing of the Cayos, and the having arrived at the (low water) depth of 5 fathoms. Her head must now be laid up the South-west channel, N.E. $\frac{3}{4}$ E., or N.E. $\frac{1}{2}$ E., or farther to the northward, according to the state of the flood, which slants across the banks. The chart will show, if these banks do not materially alter their positions, that in making a straight course up this channel, the vessel

* See description of the Cayo Islands in Article 99.

will have to cross both the eastern prong of the Cachops, and the long spit which projects from Garamas Island, and that she will, therefore, at each of those places lessen her water for a cast or two of the lead to $2\frac{1}{2}$ fathoms ; but if she is under good command a judicious yaw will keep her in a proper depth. About 8 miles of this N.E. $\frac{3}{4}$ E. course will lead to the edge of the bar, on which there are generally $2\frac{1}{2}$ fathoms at the low water of springs, and as the tide will have been for some time lifting, it will be probably crossed in more than 3 fathoms, unless the swell should be very severe. But before she has reached the bar, the high trees to the westward of Bolola Point will be seen from aloft, and should be brought ahead on the bearing of N.E. $\frac{3}{4}$ E. Garamas Island will also be seen, and ultimately Cape Mata will rise upon the starboard bow. The bar being happily crossed, the lead will suddenly drop into 6 or 7 fathoms ; the vessel will be in the main channel of the river, with the low point of Bolola E.N.E. 5 miles, and Cape Mata E. $\frac{1}{2}$ S. 8 miles, and the course must then be immediately altered to East by the compass, till she is abreast of Cape Mata, or in such a berth as she may think proper to take.

95. Bolola Point is low, and two miles to the eastward of *Bolola Point*, the lofty trees which have been already mentioned. At the point the shore abruptly turns to the northward towards Bolola, a large village standing on the beach. There is a *and Village.* Portuguese resident there, and an intricate channel may be found, carrying 5 fathoms, close up to the houses. The ground in the neighbourhood of the village is low and swampy, with extensive plantations of rice.

Caton Bay is a couple of miles in breadth, and from the head of the bay a deep-water creek opens to the North-east, which is said to communicate with the river Casamanza, at Zinginchor.

96. From abreast of Cape Mata, the course up the River *Cacheo Fort.* Cacheo is about E.N.E., for 11 miles, as far as the old Portuguese fort of that name. Thereto the lead will be found a safe guide, and any vessel may safely anchor off the fort, in 5 fathoms, on good holding ground. The shores are everywhere covered with mangroves, which grow in the water, and which render landing impracticable, except at a few spots. The fort is a square building with a few guns, and in 1834 the garrison

Cacheo Fort. consisted of a detachment of negroes under the command of two European soldiers belonging to the chief settlement at Bissao, on the river Juba.

Sara Bank. It is apparent from the chart, that as soon as the two entrance capes are passed all difficulty vanishes, and that vessels of any draught may freely proceed, not only to the Fort of Cacheo but to Farin, which is 70 miles in a straight line from Cape Mata, and 100 miles of river-way, by keeping in the mid-channel, and, as in all other rivers, by avoiding the points. In that whole space there is but one danger, *viz.*, a bank near Sara Creek, which projects a little more than half-way across the river, and which may be easily cleared by borrowing on the southern shore. The flood-tide is scarcely felt above Salsang, and the current is not very strong in any part of the river, except towards the end of the rainy season, which it is said commences in the month of June.

At the town of Batoor portions of clay peep out between the masses of mangroves, the shores become steeper and rocky, and good-sized forest trees, including the mahogany, show themselves on the banks. Near Farin the mangrove entirely disappears, the country becomes beautiful, a gently rising tract of fertile soil commences, and a few scattered cotton plantations may be seen in the vicinity of that village. It is said that there is easy and constant communication from hence to Bissao on the one hand, and on the other to the Casamanza and the Gambia.

Farin.

97. Farin stands on the right bank of the river; it is but a small place, with few native inhabitants, and in the custody of a single Portuguese mulatto serjeant. The appearance of H.M.S. Raven produced no little alarm both to him and them, but a few refreshments were easily obtained, and as the rapids are only a short distance higher up, the water alongside was pure and good. The freshness of the climate was charming, after the sickly mangrove heaviness of the atmosphere, from which her crew had greatly suffered lower down the river; but the unfriendly habits of the natives forbade much enjoyment from this tempting change of scene. At Salsang, likewise, the same hostile spirit displayed itself, and a party that had landed to shoot wild deer was obliged to embark, in order to avoid a conflict. Batoor is the largest town on the river, and the inha-

Batoor.

bitants are the most civilized ; they are all Mahomedans, and *Batoor*, of the Mandingo tribe, which is the most powerful of the numerous castes that have possession of this country. Not that the population is numerous ; on the contrary, when compared with the thickly peopled plains along the Ivory and Gold Coasts, it is quite insignificant.

It is high water on the Bar of the Cacheo at 7^h 45^m at full *Tides*. and change ; and spring tides rise 8 feet.*

98. About 20 miles of a low forbidding shore, with very shoal water, separates the River Jebā from the Cacheo, or in other words, extends to the southward from Cape Mata to Cayo Point. In that interval the Jatt Shoals, which project 10 miles *Jatt Shoals*. from the mouth of the Jatt channel, terminate in a patch of perpetual breakers, and the Jatt Flats form a spit of 5 miles in length to the westward of Cayo point.

99. The Cayo Islands lie close to this point, appearing at a *Cayo Islands*. distance like three small hummocks, but at low water their bases unite : they are not high, but their dark lofty trees stand out very conspicuously from the low land behind them, and form the principal landmark for approaching the Jebā. They lie in 11° 50' north latitude.

100. The Jebā† is a much larger river than the Cacheo, its *Jeba River*. mouth being 15 miles wide from Cayo Point to Carashe Island, and at 30 leagues up from that point it shows a breadth of 4 miles. There are many dangerous banks in its entrance, as well as higher up; but they may be easily avoided, and it is not traversed by any shallow bar. The obvious rules for entering it are to get into the latitude of the Cayo Islands, or a mile or two farther to the southward (11° 48'), and by steering E.S.E. $\frac{3}{4}$ E., so as to make a true east course across the Great

* The ebb tide in the Cacheo, as also off it, sets to the N.W., and the flood to the S.E. ; but the ebb is nearly always running. I was for some time on that part of the coast, and ascertained that the ebb generally ran 8 hours, while the flood rarely ran more than 4, nor could it be called the regular flood tide ; but merely a slack water or cessation of the ebb. Towards December, after the rains are over, and the Harmattan season has set in, the wind generally blows very strong from N.E. to E.S.E., which tends considerably to strengthen the ebb, and during that season vessels at anchor rarely swing to the flood.—*Remark Book of Commander Thomas Miller, H.M. Sloop Ranger, 1850.*

† See Chart of the Bijouga Islands and the Jebā Channel, sheet 1.

Jeba River.

Jeba Flat in 8, 7, and 6 fathoms, till those islands are seen ahead, or a little on the port bow ; or, if the vessel is coming from the northward, and has had an opportunity of making Cape Roxo satisfactorily, an equally sure method of hitting the entrance will be to bring that cape to bear E.S.E. $\frac{1}{2}$ E. about 6 miles,—then, allowing for the tide, to steer S. b. W. $\frac{3}{4}$ W. for 20 miles, which will place her in $12^{\circ} 0' N.$, and in 8 fathoms,—and then, by running S.E. $\frac{1}{2}$ E., her leads will tell her gradual approach towards the edge of the Jatt Flats, and will lead her safely up to the sight of Cayo Islands.

Cayo Bank.

101. If bound up the river, pass the Cayo Islands in 6 or 7 fathoms, or at the distance of a mile or two, in order to avoid the Cayo Bank, a narrow ridge of sand in the direction of the stream, and 8 miles in length. Its general depth is 4 fathoms, but in one place, bearing S. $\frac{1}{2}$ W., 4 miles from Cayo Islands, it rises into a knoll of sand with only 12 feet. And here let it be premised, that most of the banks in the Jeba, and among the Bijouga Islands, are composed of hard sand and steep-to, so that the unceasing use of the leads is even less efficient in giving warning by the actual depth of the water than by showing the nature of the bottom, which in the channels is generally soft mud, and round the edges of the banks hard sand ; and therefore instant attention should be paid to the change thus indicated.

Arlett Bank.

102. From abreast of the Cayo Islands a S.E. $\frac{1}{2}$ E. course will skirt the Arlett Bank, on part of which there are but 16 feet, and will place a vessel in 15 fathoms, off Arlett Point, which, though very low, may be recognized by a village near the shore. In the interval she will have passed by the wide opening of Catherina Bay, which unites with the channel round Jatt Island, and, with Balantes Bay and Martinho and Bissao Creeks, divide the right bank of the Jeba into a series of large islands.

Balantes Bay.

From Arlett Point an E.S.E. $\frac{1}{2}$ E. course will lead across the broad mouth of Balantes Bay, in a depth of 10 to 20 fathoms, though over very uneven ground. The low point of Biombo appears to be quite safe on its southern face, but should be passed at the distance of 2 miles, in order to round the Martinho Bank, which is a narrow but steep ridge, and the more dangerous as it seldom breaks, though carrying only 6 feet at low water. There is a passage between this bank and the flats in Martinho Bay, but unless in a case of the strongest necessity

*Biombo Point.**Martinho Bank.*

all vessels should keep out in the main channel. When in 10 fathoms, a short mile to the southward of the bank, Biombo and Martinho Points bear N.W. and E. $\frac{3}{4}$ N.; and, therefore, in going up or down the river, a vessel should not borrow on the bank by parting with the one bearing till the other be obtained.

Martinho Bank.

103. At that 10 fathoms position the course may be altered *Gancho Banks.*

to East a little northerly, so as to keep the northern shore aboard, as well as to avoid too near an approach to the suspicious flats which project from the Gancho Banks; and a run of 13 miles through soundings varying from 10, 5, and 12 fathoms, will take the vessel abreast of Bernafel Point, which, on account of a shallow spit, should be passed in 7 or 8 fathoms, or at a distance of $1\frac{1}{2}$ miles. But by this time the town and fort of Bissao, and the two conspicuous islands Passaro and Rey, will have been seen; and by opening the latter half-way out to the eastward of the former (about N.E. b. E.), the spit will be avoided, and a clear course offered to the anchorage.* Run along the eastern side of Passaro Island, which seems to be quite safe at the distance of half a mile or less, and steering for Bissao fort, anchor either half-way between the islands, or proceed at once to the town, off which a good berth may be taken in 7 fathoms, mud, with the fort N.N.W., and Rey Island between S.E. b. S. and East. It is necessary to remark that there are short spits from the N.E. and S.W. points of Passaro, and from the S.W. point of Rey Island, and that from the latter an extensive bank stretches to the north-east.

Bernafel Spit.

Passaro and Rey Islands.

104. The Fort of Bissao is a square building with four bastions and several guns, and stands about a cable's length from the beach. The Portuguese have a garrison there, but consisting chiefly of convicts and mulattoes, except the officers, who are detached from the Cape de Verde Islands, of which this settlement is a dependency. There appears to be no territory attached to the fort, but it is said that 40 miles farther up the river they have a thriving factory, and another on Bulama Island. The whole island of Bissao has the appearance of being extremely fertile, and the population is proportionally great. It is divided among several independent chiefs, the most powerful of whom resides in the large native town adjoining the

Bissao.

* See Chart of the Bijouga Islands, and the river Jeba, sheet 2.

Bissao. above-mentioned Portuguese fort, and containing 6,000 or 7,000 inhabitants.

Refreshments. 105. Refreshments of all kinds may be obtained there, but at high prices, small bullocks costing from 20 to 25 dollars each, and goats, pigs, and poultry in proportion. Rice, maize, and yams, and several kinds of fruit, such as bananas, water-melons, limes, oranges, &c., are cheap, especially if gunpowder, clothes, or brandy are offered in exchange ; but in cases of large demand strangers must apply for the sanction of the governor.

Water. The watering-place is on the beach a little to the westward of the fort : it consists of pits 3 or 4 feet deep ; but their produce is so slow that not more than 30 barrels can be filled in a day ; and it then requires to be filtered for drinking. It is, however, said to be wholesome, and to keep well, which appears rather doubtful. There is another watering-place on Passaro Island.

Fish. It appears to have been the opinion of the surveying parties that the waters of the Jeba, and indeed all round the Bijouga Islands, from the prevalence of mud in the channels, contain but little fish, and that what were caught were neither agreeable nor wholesome ; adding, "that no dependence can be placed on this resource between the Gambia and the Isles de Los." On the other hand, Captain Beaver, who endeavoured in 1791 to form a settlement on Bulama Island, and resided there 18 months, says, "The sea abounds with fish of various kinds, which the natives have not learned the art of entrapping by hook and line ; they notwithstanding catch a great number by means of nets, weirs, and fish-pots ; and hawks-bill turtle, which the natives will not eat, are sometimes caught among the islands. The sea, however, not unfrequently furnishes them with the flesh of the hippopotamus, of which they are extremely fond."*

Wood. Bissao is a bad place for laying in a stock of fuel, for though most part of the country is covered with forest, yet the lazy natives bring it with reluctance, and deliver it only at very high prices, and neither the climate nor the hostile disposition of the inhabitants will allow the crews of vessels to cut wood for themselves.

* Beaver's African memoranda, p. 330.

106. It appears to be high water at full and change, at *Tides*. Bissao, by the shore, at 11 o'clock mean time, and it rises 8 feet. At the anchorage the eastern stream ends at 12^h 30^m. At the springs the tides run about 2½ or 3 knots. Higher up the river, the flood is said to rise 14 feet.

107. The vessel which has been brought up in the preceding pages to Bissao, by the river Jebä, we shall now conduct to sea again by the Southern or Orango Channel; the links which connect those two great inlets being the Arcas and Bulama Channels, and the Kanabak Reach.

108. The Arcas Channel branches off from the Jebä about *Arcas Channel*. 10 miles below Bissao, and is formed by the Gancho Banks to the westward and the Arcas Flats to the eastward. Its narrowest part is 1½ miles wide between 3½ fathoms on either side. There are 14 and even 16 fathoms in some parts of it, while in others only 5 fathoms will be found at low water; and this unevenness in the bottom produces, with the tides, overfalls which sometimes appear alarming. Along the edge of the Arcas Flats, parts of which dry at low water, the soundings *Arcas Flats*. are very irregular, but they may always be cautiously approached with two quick leadsmen in the chains.

109. The Pedralva side of the channel is rather more regular. *Pedralva Rocks.* and the slope of the bank inside of the 5 fathoms line rather more gradual. The principal rock shows its head a little after half ebb, and should be seen if possible by all strangers attempting to go through this narrow passage. To ensure its being easily seen, Captain Denham placed a wooden beacon on its highest part, carrying two cross diamond-shaped vanes; and the Governor of Bissao assured him officially that it should be carefully preserved.* The chief difficulty of the channel may be said to arise from its being so completely sheltered that the sea seldom breaks upon its rocks or banks. *Pedralva Beacon.*

110. In leaving Bissao Road, in order to proceed to the *Bissao to Bulama.* Orango channel or to Port Beaver, after rounding Passaro Island, steer S.W., or, allowing for wind and tide, so as to bring

* Commander Allan H. Gardner, H.M. Sloop Waterwitch, in his Remarks for 1851, says, "The beacon placed on the Pedralva rock by Captain Denham was washed away in a tornado last year." No information has been received of its having been replaced.—*Hydrographic Office, May 1853.*

*Bissao to
Bulama.*

that island astern, and apparently midway between Middleton Point and Rey Island, and therefore to bear N.E., as shown in the view. If that mark be preserved, the vessel will clear the edge of Arcas Flats by half a mile, and will find herself advancing in a direct line towards Pedralva Beacon. When the principal tree of the Grove of St. Martin bears N. $\frac{1}{2}$ E. she will be within $2\frac{1}{2}$ miles of the beacon, and may then steer, about S. $\frac{1}{2}$ E., for Bulama Point. Having reached within a couple of miles of that point, she must edge a little to the westward, and pass it at the distance of a mile, in order to avoid its foul prongs ; and here, as well as in all parts of this channel, remember that the flood sets to the N.E. and the ebb to the S.W., and therefore obliquely athwart the banks. The anchorage is good in most parts of the channel, though there are some deep holes, and some shallow spots, which last are probably indicative of foul ground in the vicinity ; and these patches generally produce strong ripples. When any of the fierce tornadoes which are so common on this coast are seen approaching, vessels ought to anchor immediately ; and if they are bound upwards to Bissao, it may be useful to know that, if detained by waiting for wind or tide, their boats can always communicate with that town by the pass to the eastward of Arcas Island.

Tides.

111. It appears to be high water at full and change at $10^{\text{h}} 10^{\text{m}}$ throughout the Arcas Channel; spring tides rising about 14, and neaps about 9 feet.

Bulama Point.

112. Off Bulama Point there are a few prongs and reefs, which are steep-to ; the point however may be safely approached to within a short mile. Four miles farther to the S.E., off Hacket Point, some extensive reefs stretch out 3 miles ;

Hacket Reefs.

and between those two points, in the bight called in the chart Dalrymple Bay, tolerable anchorage may be found, in from 8 to 13 fathoms, sand and mud, with Bulama Point about N.N.W. The anchor must be ready to let go on shoaling to less than 20 fathoms ; for inside of the 8 fathoms the bank is steep. If this anchorage can be taken without risk it may be a convenient berth in order to wait for the tide, as the ground is good and but little stream ; and water may be procured on the adjacent beach.

*Dalrymple
Bay.*

*Bulama
Channel.*

113. From midway between Bulama Point and the opposite

extremity of Gallinha Island, the course through the Bulama Channel is S.S.E. $\frac{1}{4}$ E. for 7 or 8 miles, or till within 4 or 5 miles of the low shores of Manteri Island. This course equally avoids the Hacket shoals on the one hand, and on the other, the eastern prong of the large shoal which seems to connect the islands of Gallinha and Kanabak ; and all these shoals are too steep to admit of much benefit from the hand lead, for a large vessel ought not to pass within the depth of 16 or 17 fathoms.

114. The Bolola and Bulama Channels meet here ; and the *Bolola Channel.* only advice that we can give to a vessel bound up the former, or into Port Beaver, is to steer for Nalou Point, which appears to be approachable ; and from thence, or rather from a mile or so in the offing, to shape a course for passing either east or west of the Mao bank.

115. Port Beaver was so called from the settlement that was *Port Beaver.* formed by Captain Beaver on the Eastern side of the fertile Island of Bulama, but which was abandoned in the following year. In 1845 a Gambia merchant, engaged in the timber trade, established a small factory here. The harbour is easy to approach, the anchoring ground excellent, and the shelter perfect, as well as the facilities of landing. Water may be procured with some little trouble on the island, and still more easily on the opposite shores of Biafares, where three springs *Biafares.* are marked in the chart. Some refreshments may possibly be procured ; but no dependence can be placed on anything that is to result from the industry or humanity of the inhabitants of the Bijouga Islands.

116. At the confluence of the above two channels, Kanabak *Kanabak Reach.* Reach* may be said also to begin, and the mid-channel course through it, as far as Barel Point, is S.W. $\frac{1}{2}$ S. for about 15 miles. This point is higher than the rest of Kanabak, and is also conspicuous from the red rocks of which it is formed.

Kanabak Island is moderately high, with an excellent soil of *Kanabak Island.* decomposed lava ; and Captain Belcher observed that the cattle, though rather smaller in size, were in finer condition than on the other islands or on any part of the African coast ; and what is remarkable in that part of the world, many of them

* See Chart of the Bijouga Islands, sheet 3.

Kaabank Island.

Water.

Damiong Bay.

were without horns. The eastern coast of the island may be safely approached by the lead, and everywhere offers a safe anchorage in from 10 to 8 fathoms, with good holding ground, and within a couple of miles of the shore. Water may be plentifully obtained at Damiong Bay, but it requires filtering or boiling before it is used, for the long pool from which it is baled is overhung by trees, and is therefore always filled with fallen leaves. Their decomposition gives it a disagreeable smell and taste, but it was freely drunk in the *Aetna*, without producing any ill effects, though it was afterwards prudently confined to culinary purposes. This pool lies parallel to the beach through which it oozes, but it is kept up to a uniform level by the abundant supply of some neighbouring springs. Wells were also dug at a little distance from the shore, and they supplied pure and clear water. Wood may be had on all these islands, but at Damiong Bay it may be cut and embarked with great facility.

Port Manel.

117. On rounding Barel Point, a small cove will be perceived between it and the little island of Pomp, with good anchorage, though at low water rather shallow. It is called in the chart Port Manel, and is apparently the rendezvous of all the canoes belonging to that side of Kanabak. From abreast of Barel Point a S.W. $\frac{3}{4}$ W. course, due attention being had to the tides, will lead clear out to sea; and in most parts of Kanabak Reach the soundings will indicate a too near approach to the shoals on either side.

Jamber Group.

118. The islands Jamber, Cavalho, and Mel will soon be distinguished; they are nearly of equal height, and the latter shows some extent of a white sandy cliff. The northern end of this group is less dangerous to approach than the shoals on the western side of the channel; for the Cavalho Spit, which dries at low water, almost always breaks, and the two small patches near it are less than half a mile from its edge.

Between Mel and Jamber Islands there is a narrow deep water channel named in the chart Jamber Pass, but it is not likely to be chosen by any stranger. If circumstances should render the attempt necessary, the best time would be after the last quarter of the ebb, as many of the dangers would then be visible; but even then, it would be prudent to send a couple of boats ahead, to mark the projecting points of the reefs on

either side, which may at that time be readily perceived by the *Jamber Group.* ripples of the tides. The *Ætna* passed through this channel, but she had just before completed its survey ; and the *Raven*, in like manner, beat through the passage to the eastward of *Jamber Island* with ease ; but there are few occasions which would justify any large vessel in venturing through either of them.

Pullam Island, so called from the lofty *Pullam* trees it carries, is the southernmost of the *Jamber Group* ; it is very small, but the reefs and foul ground by which it is surrounded extend for 14 miles from *Mel Spit* to the *Bicho Rocks* and the *Pullam* shoals ; and thus form the eastern side of the *Orango Channel*. The whole space occupied by this group is replete with dangers, and should be avoided or very cautiously approached. In some places the depths decrease in a single cast of the lead from 24 to 5 fathoms, and then, perhaps, aground.

119. The *Orango Channel*, or, as it is called by the Portuguese, the *Rio Grande*, may be said to reach from *Kanabak* to the *South Breaker*, and therefore to be upwards of 40 miles in length. Its least breadth between *Bronco Reef* and *Cavalho Spit* is 5 miles ; but the distance between the *Pullam Shoals* and the ridges connected with the *South Breaker* being 13 miles, it thus offers a spacious estuary through which the most timid stranger may work with perfect security, provided he pays the commonest attention to the tides, has his leads in hand when nearing either side of it, and adopts the useful precaution of keeping a look out from the mast-head for ripples or discoloured water.

Along the western side there are several dangers after *Bronco Reef*. passing *Kanabak*. First, the *Bronco Reef*, on part of which there are but 6 feet at low water, with 8 and 16 fathoms within two cables' lengths. It lies 5 miles E. $\frac{1}{2}$ N. from *Cameleon*, and is nearly a mile in extent. A quick leadsman will give sufficient warning, but in clear weather *Barel Point* kept half a point open to the eastward of *Sueste Point* (N.E. b. E. $\frac{1}{2}$ E.) will lead outside of it in deep water.

Pipon Patch is within the above line of bearing ; and, *Pipon Patch*. though carrying but 2 fathoms, may be safely approached by the lead.

The *Cameleon Reefs* project in a S.S.E. direction nearly *Cameleon Reefs.*

Cameleon Reefs.

two miles from the cape; but being far within the fairway track through the channel, no vessel is likely to get nearer to them than 10 or 12 fathoms, at which depth she should tack.

Orango Reef.

Then comes the great Orango Reef, stretching away to the S.W. for 10 miles from the Cape, and always throwing up its tremendous breakers. The ground shoals rather suddenly up to its eastern face, and the tides set rather sharply round it, and in some places across it, but the appearance of its broken water is quite enough to keep all vessels at a respectful distance.

Cape Cameleon. 120. Cape Cameleon is the south-eastern point of Orango Island, and, being a yellowish cliff of moderate height, is easily recognized by vessels making the channel from the southward.

Etna Patches. 121. Eighteen miles W.S.W. from Cape Cameleon and 10 miles W. $\frac{1}{4}$ S. from the tail of Orango Reef, there are several long ledges of rocks, and 3 miles farther to the westward some sand banks, which dry at low water, and which were called the Etna Patches. To the southward of these patches there are other banks and dangers, amongst which no vessel should trust herself; and at 10 miles South of those patches will be found

South Breaker. a shoal on which the sea at all times breaks heavily. It is believed to be at the southern angle of the great trilateral bank on which the Bijougo Islands stand, and when made by vessels coming from the southward, serves for a key to the Orango Channel, or for a point of departure to those that have come through it from the northward. Its 4 fathoms southernmost point is in $10^{\circ} 39' N.$ and $16^{\circ} 9' W.$; it is 22 miles to the southward of the nearest land (Orango Island); 28 miles W. $\frac{1}{4}$ S. from Pullam Island; and the course from it to the Elbow of Orango Reef is N.N.E. 20 miles. Though no dangers were discovered to the southward of the Breaker, yet there are some suspicious soundings in the offing, and as detached rocks and small insulated knolls of sand are frequent in those seas, the mariner is advised not to round it in a higher latitude than $10^{\circ} 35' N.$

Tides.

122. The tides in the Orango Channels are similar to those about Arcas and in the Jeba, rising 11 or 12 feet at the springs to high water, which takes place about 10 o'clock; and seldom exceeding $2\frac{1}{2}$ knots in velocity, except after some violent freshes in the rivers.

123. Before quitting the district of the Bijoura Islands, a few words may be added about that singular and dangerous group. It was partly surveyed, as appears by the charts to which reference has been made above, but not sufficiently to enable strangers to make free with the various channels by which it is intersected ; nor is it likely that for a long time to come there will be any inducement for them to penetrate its interior waters, or to have any farther intercourse than may be afforded by the open channels of Jeba and Orango. Besides a few bare or unproductive rocks, the whole cluster consists of thirteen islands, occupying a space of about 50 by 35 miles. They are all volcanic and highly fertile, although, as far as could be perceived, generally deficient in water ; and from various causes they are probably healthier than the mainland. Most of the islands are inhabited—the men are active and powerful, but proverbially revengeful and treacherous, and appeared averse to any species of barter or exchange, so much so that it was with great difficulty that the *Aetna* obtained a few fowls ;—nothing but firearms and powder seemed to tempt them.

Their houses are circular, and built of stones and mud, and in the African fashion of one within the other ; the doors are low, and there being no windows they are insufferably dark and hot ; but they are well thatched, with broad projecting eaves. Their canoes are large and clumsy, and would contain easily thirty men with paddles ; no attempt seems to be made to employ sails.

124. Before we advance to Conflict Reef the little island of Alcatraz must be described. It lies S.E. $\frac{1}{4}$ S. from Pullam island, 26 miles ; it is a volcanic rock of 40 feet in height, traversed by deep fissures ; and is the abode of innumerable boobies, whose eggs proved to be a great refreshment to the boats' crews. Reefs and foul ground stretch out to the southward for 7 or 8 miles, and the top of one of the reefs was capped with a dry sandy islet, on which lay part of the stores and cargo of a former wreck. Some of them had been overlaid by detached rocks of large dimensions, showing what convulsions are produced there by heavy S.W. gales and the long Atlantic rollers. Pieces of the ivory were still available for the lathe, but the Cam-wood had been destroyed by the Teredo.

Unknown Coast South of the Bolola River.

125. The interval of coast between the Bolola and Componee rivers* does not seem to have been visited by either the Portuguese explorers or by the French or English surveyors : it is so low as to be seldom perceptible to vessels going up through the Orango Channel to Bissao, and as there appeared no chance of its being presently navigated, they probably considered that it was not worth the long period which must have been devoted to its examination. This unknown coast, stretching from Tombali Point to the Tristao Islands, occupies a space of about 40 miles in length, and lies from 10 to 20 miles behind the Jamber and Alcatraz islands and reefs which have been already described. It comes however into close connexion with the Componee Shoals, and an account of them will therefore conclude the catalogue of all its outlying dangers.

Componee Shoals.

Conflict Reef.

126. The Componee Shoals form the western side of the bay which receives the waters of the Componee and Nuñez rivers, and terminates in a vast bed of rocks and sands called the Conflict Reef. From this reef two long and dangerous prongs project, one to the southward and the other to the westward, and vessels should very cautiously approach them either at night or in thick weather. The western prong, where it ends in 5 fathoms, lies in $10^{\circ} 24'$ N. latitude, with Alcatraz Island bearing N. $\frac{1}{4}$ W. 15 miles, and Cape Verga S.E. b. E. 48 miles ; the southern prong bears E.S.E. 12 miles from the western one. This is altogether a most dangerous neighbourhood, for, 6 miles S.W. b. S. from the extremity of the South Prong, there is a rocky head carrying only $2\frac{1}{2}$ fathoms ;—and as other insulated knolls may have escaped the vigilance of the sounding boats, no vessels without great precaution should borrow on Conflict Reef within 14 fathoms, especially on the line of its apparent prolongation. The same vigilance should be exercised in every part of the bight between Conflict Reef and Cape Verga, and in the offing of that bight ; and a vessel working along the coast will perhaps find it more prudent, during an adverse tide, to anchor, instead of persevering in making a number of boards which can avail but little against the stream, but which will expose her to the chance of picking up some undiscovered pinnacle of rock.

* See Chart of West Coast of Africa, sheet vii.

127. About 23 miles East from the South Prong of Conflict Reef, the little island of Gonzalez* forms the southern point of the entrance into the River Nuñez. There are two other islands to the northward of Gonzalez, and between them and the mainland there is a narrow channel, called by the natives the Broat. These islands are fronted by a dangerous flat of rocky and gravelly ledges, of a mile and a half in breadth, and extending for at least 8 miles to the south-westward of Gonzalez. One patch of it, 4 miles S.W. $\frac{1}{4}$ S. of that island, dries at low water, and shows its bare volcanic structure for 3 quarters of a mile in length.

128. Vessels bound into the Nuñez would naturally endeavour to make the high land of Cape Verga; but this cannot be safely done unless the weather be sufficiently clear to show it at a distance of more than 10 miles; for at 9 miles to the westward of the cape there is a long dangerous shoal, called the Verga Ridge, lying nearly parallel to the shore, and carrying in some spots only 9 feet of water. Even in clear weather the cape should be very cautiously approached, as in that part of the chart there is a great deficiency of soundings in the offing.

129. Whenever the Cape can be distinctly made out by a vessel coming in from the S.W., a proper course may be steered towards the mouth of the Nuñez; but a vessel coming from the N.W. should take a departure from Alcatraz Island, and perhaps endeavour to see the breakers on the Prongs of Conflict Reef. She should be also sure of having reached the latitude of $10^{\circ} 20'$, and may then run for Gonzalez Island, which will generally be seen from the deck about 6 miles. In every cast she must be prepared for great irregularity in the soundings, and should, under a manageable sail, keep her leads constantly going. If she can approach Gonzalez on an East course she will suddenly deepen the water to 10 or 12 fathoms, at 6 or 7 miles from that island, and will again quickly shoalen it to 7 fathoms; but by this time the land will be distinctly seen, and she may haul in towards the mouth of the river, steering about N.N.E. As she advances, high pullam trees will be observed on some of the points of land, the water will deepen to 8 fathoms, and when Gonzalez Island is seen to open from Broat

* See Plan of the Nuñez and Componee Rivers.

*Eastern
Channel.*

Island, she will be entering the Eastern Channel, which is formed between the Dapecara and Broat Flats on the one hand, and on the other by a long chain of shoals and patches that stretch 6 miles to the south-westward from Sand Island. The above islands open from each other on a S.E. b. S. bearing, and exactly on the opposite bearing (N.W. b. N.) lies the southernmost of these shoals, with only 2 fathoms at its northern end.

In the direction of Sand Island, three conspicuous trees may be observed on the right bank of the river, and when the first of them shuts in with the western extremity of the trees growing on Sand Island, bearing about N.E., she may at once shape a course for the eastern side of that island. Great attention must now be paid to the leads; and remember that the maxim, "Keep in the mud," which would be almost sufficient to guide a vessel in the dark in all these rivers, is here of more than common value, from the shifting nature of the spits and sand-banks of the Nuñez, as they yield alike to the floods from within and the gales from without. In going up this channel, care must be taken to give a sufficient berth to the flats and ledges, which project upwards of 2 miles from Broat and Dapecara Islands, as well as to the long reef from Talabajli Point, on all of which the flood stream sets obliquely across the river. For this purpose it will be safer to borrow on the western side of the channel, where the chain of the Sand Island shoals generally manifest themselves by their heavy breakers.

*Broat and
Dapecara
Flats.**Sand Island.*

130. The best anchorage is about a third of a mile from Sand Island, with its south point about N.W. b. W. The *Ætna* lay there in 5 fathoms within hail of the shore; and for good holding ground, convenience of landing, and facility of wooding, it is not surpassed by any anchorage on the coast. It offers an excellent place for a temporary refit, as a vessel may be safely moored within 100 yards of low water mark, or less if required; and if small she may be grounded on a clean beach, or hauled up for examination or repair. It would be prudent to have a good warp laid out towards the stream, in preparation for hauling off on the appearance of a tornado. The island is uninhabited; a large space for encamping the crew of a ship of any size is clear of trees, and the stores may be conveniently landed. Drift-wood lies piled up by the tide on the southern side of the island, and plenty of live timber

was growing ; from both of which sources, the *Ætna* fully *Sand Island*. completed her fuel, without apparent diminution of the stock. The palm trees afforded excellent cabbages for the sick, and also made a good pickle, which proved to be a useful anti-scorbutic, and very acceptable to the crew on a coast where no esculents could be obtained. A deficiency of fresh water was the only drawback on the comforts of this place ; the little that was found having a bad flavour from the soil through which it slowly filters. The temperature indeed was rather high, the thermometer sometimes reaching 100° in the shade, but it seldom was oppressive, for, as the island stands in the middle of the wide stream, it enjoys the benefit of every breeze, and either the land or the sea breeze prevailed throughout the 24 hours, except between 9 A.M. and noon. The fine sand of *Blowing Sand*. which the island is composed, and which is raised by the slightest wind, is indeed a considerable nuisance, at least to surveyors and their instruments, for it pervaded every box, and was more or less injurious to the fine divisions. The western side of the island is much the coolest and most agreeable, but not so convenient for immediate communication with the beach and the anchorage.

It is said that 50 years ago *Sand Island* was a small bare sand bank ; if so, the joint operations of deposition and vegetation must have indeed been rapid, for it is now not only half a mile in length, but produces many large trees, shows a rich soil at its northern end, and stands 6 feet above the highest tides. Extensive shoals have, however, kept pace with this rapid formation of the island, for from its western shore they stretch out a mile to the one-fathom line, and more than 3 miles from its south-western point, rise into an irregular spit, which dries at low water for half that distance, and by its break or ripple shows the limits of the channel very distinctly to vessels coming in. So great, however, is the quantity of sand blown off the shores, or swept down by the stream, that possibly a few years will again make such a change in the features of the island, the extent of the banks, and the direction of the channel, that all that has been here said will be useless.*

* Subsequent visits to the Nuñez have shown the truth of this latter observation ; for Lieut. Thomas H. Lysaght, who visited it in H.M. Steam Vessel Grappler, in 1848, says, " *Sand Island* is now reduced to a flat at

Sand Island.

Captain Belcher was likewise informed, that a good channel formerly lay along the north side of the island ; but this is not probable, as there are now three ledges of rock between it and the shore, and the growth of rocks is not quite so rapid as that of sand-banks. There is, indeed, a narrow passage there, for boats, or perhaps for a vessel drawing under 12 feet, but so intricate that, unless in some very peculiar case, it should not be attempted, and then with every precaution of buoys and boats.

Tides.

131. On full and change days of the moon, high-water took place at 10 o'clock ; spring tides rose 15 feet, and neaps 8 feet.

Cappatches River.

132. About 5 miles E.S.E. from Gonzalez Island the entrance to the River Cappatches will be seen ; but as there were but 2 fathoms at four miles in the offing, within which the sea broke all across, and as the volume of water appeared to be small, Captain Belcher did not consider it to be worth the labour or risk of further examination. It is, however, said to be a trading

half-tide, and from the shifting nature of the sands a stranger should not attempt the river without a pilot. I found Mr. Fasso, of the Isles de Los, who is employed by Mr. Campbell there, a very competent one. The river winds through a long mangrove country, leaving a long island on your starboard hand, and passing many native villages, until you arrive at Ropass Factory, on the north bank of the river, which forms a reach just above it. There is a flat of rocky ground, extending from the opposite shore, nearly across to Ropass, which is impassable except at high water. Vessels should anchor in the centre of the stream about a quarter of a mile below Ropass, and if to remain, should certainly moor ; higher up the river it is necessary to moor head and stern, laying a stream anchor out astern against the flood. All the trading establishments above Ropass are in ruins, except at Debucko, where the French traders have some small stores. The Grappler went up to Cassassey, 70 miles from the entrance, and 5 miles from Debucko, where she lay in the bed of the mud in $2\frac{1}{2}$ fathoms at low water, and had it been necessary might have reached as far as that place, grounding, however, at low water. Debucko is the residence of the principal chief of the river, and stands on a commanding eminence on the starboard shore ; beyond this, it is said, boats cannot proceed far. At this season of the year (February) the tide ebb 8 hours and flow 4 hours, the rise being about 8 feet. The bottom is generally stiff mud, the banks steep but soft, and the few rocks in the river may be suspected from the appearance of the shore. Alligators abound. Stock is to be procured at times from the interior. Water is scarce and bad. The wet season commences in May and ends in September, during which time the river is very rapid, and towards the close of the season, as the water subsides, very unhealthy. In January, February, and March Harmattans prevail, and the nights and mornings are very cold, with a thick haze."—*Remarks of Lieut. Thomas H. Lysaght, Commanding H.M. Steam Vessel Grappler, 1848.*

river, the traffic being carried on by canoes and by vessels of *Cappatches River.*

133. The coast from Gonzalez Island to Cape Verga forms a deep bay, though with such shallow water, that no vessel should venture into it; and about $7\frac{1}{2}$ miles W.N.W. from the cape, Verga Ridge terminates. This frightful reef, which appears by the chart to end here in $2\frac{3}{4}$ fathoms, after stretching without intermission for 16 miles, from the mouth of the Cappatches river, has most likely some outlying patches, and it forms on either side two open bights, in which vessels should be careful not to get entangled. *Verga Ridge.*

134. Cape Verga cannot be mistaken, for, unlike all the adjacent shores, it rises at once from its base into high land; and when seen from the southward, in connexion with a conspicuous eastern range of hills, is one of the most remarkable landmarks on the whole coast. It terminates in a rocky point inaccessible to boats; but without either islands or mangroves. To the S.E. of Cape Verga the shores resume their low and swampy character, and as far as the river Ponga they are fronted by a shallow bank, the 3 fathoms edge of which is, for a considerable space, 7 miles outside of the beach. *Cape Verga.*

135. The Ponga* is a river of some magnitude, and, like most of the rivers on this flat coast, it diverges near its mouth into several branches. The most considerable of these are called the Sand Bar and the Mud Bar; and the latter being the northernmost shall be first described. It lies S.E. $\frac{1}{2}$ E. 17 miles from Cape Verga, and is two thirds of a mile wide. Pilots may sometimes be obtained, but if not, though there is a sad scarcity of marks, yet by attention to the constant breakers on either hand the channel can hardly be mistaken, and may, if necessary, be attempted at three quarters flood by any vessel drawing less than 14 feet. Being in 4 or 5 fathoms, that is 7 or 8 miles in the offing, bring the entrance of the river to bear N.E. $\frac{3}{4}$ E., which course will lead midway between the two sand banks that stretch $3\frac{1}{2}$ miles outside of it, and if exactly preserved will cross the bar into 4 fathoms; but it must be recollected when returning, that although the flood sets directly *in* through the channel, yet the ebb sets obliquely. *Ponga River.* *Mud Bar.*

* See Plan of the River Ponga, No. 1,675, by Com. E. Belcher.

Mud Bar.

out to the southward across the easternmost of the two above-mentioned banks, both of which are steep. These directions, if the compass be good and the lead kept quickly going, will conduct any manageable vessel across the Mud Bar, provided the maxim, *Keep in the mud*, is borne in mind. There are some more specific marks, if the weather be moderately clear ; Jilli Point, which forms the south side of the entrance, ends rather abruptly, and shows a single bush ; and when it bears a very little to the eastward of N.E. b. E. a patch of bushes will be seen beyond the point ; these objects kept in one, lead in the line of deepest water across the bar ; then on the first cast of 3 fathoms, haul immediately into the mid-channel. Or perhaps the following directions may prove more satisfactory : Goroo Point, on the north side of the entrance, terminates in a row of palms ; when their outer end bears about N.E. $\frac{1}{2}$ E. a second row of palms will be seen just opening to the eastward of them ; and the two rows kept in this position will lead in the best water between the two outer banks. When they are passed, steer midway between the points of the entrance. This bar is all soft mud, into which the lead deeply sinks, and through which a vessel with a commanding sea-breeze would no doubt easily drag more than a foot in depth.

Sand Bar.

136. The Sand Bar mouth of the river Ponga, lies about 7 miles to the south-eastward of the Mud Bar above described. Observation Point, which forms the north side of the entrance within the bar, bears N.E. $\frac{1}{2}$ E. 6 miles from the bend in the outside 3 fathoms line, as shown in the chart, where vessels would naturally try to cross the bar. Both E. and W. of this bend or bight in the bar, the great bank with which it is connected extends considerably farther out, and the many shallow spots in it give the appearance of an almost continued line of breakers ; so that no one who approaches it when the tide is out will feel any inclination to attempt to cross it much before the top of high water. But the neaps rise here 9 feet, and therefore, if there be a tolerable breeze and no great lift in the sea, any vessel drawing less than 15 feet may venture in, if no pilot offers himself, by attending to the following directions.

At three quarters flood (remembering that it sets obliquely across the channel to the northward), and with leadsmen in both chains, bring Observation Point to bear between N.E. $\frac{1}{2}$ E.

to N.E. $\frac{1}{4}$ E. Steer for that point, preserving accurately that *Sand Bar.* bearing, till the first cast of a quarter less three (allowing for the rise of the tide) shows that the vessel has arrived on the outer edge of the bar ; then alter the course so as to bring the north-west shoulder of Mount Mayondi a little inside of Moorroora Point, and run on that line for about a mile, which will carry her across the bar in 14 or 15 feet added to the rise of the tide. On the first deepening cast of 3 or 4 fathoms, steer again for Observation Point, keeping a good look-out for knolls of sand, which sometimes grow up in the channel, and as quickly vanish. Two miles on this latter course will have led past the shallow banks on the northern side, and the vessel will be safe in a broad and deep channel. Keep Observation Point half a point on the port bow ; it is steep-to on its eastern face, and may be passed at half a cable's length ; and a good anchorage may be then taken near the point at pleasure. Though the point is quite steep to the eastward, there is a little bank which rounds off from it to the north-eastward, and a vessel might be safely beached there for a tide, if necessary, the surface being fine sand, and the substratum a foot below it is a stiff blue clay which will readily take her impression. *Beaching Place.*

137. To proceed up the river to the town of Bangalong *a Bangalong.* pilot is required ; but if none can be had, and the case requires dispatch, a vessel, by keeping the port shore on board, may safely run the length of Ismir Point ; and then, with a skilful use of a couple of boats, and a flowing tide, she will find no great difficulty in reaching that town.

After all, however, that has been said of these two bars or entrances to the River Ponga, it is necessary to remind the mariner that it is some years since they were surveyed, and that there is good reason to believe that every gale from without and every rainy season from within, alters more or less the form and extent of all its banks and shoals.

The resources this river affords are trifling ; neither bullocks nor vegetables are to be had. Stock is scarce, and only to be obtained at the outer islands in exchange for muskets, ammunition, tobacco, handkerchiefs, &c., for money is of no use. For water, which is not good, the boats must go up a long way, *Water.* but as they can lie conveniently alongside the sandy beach at

Observation Point, and as the trees there grow nearly to the water's edge, wood may be easily procured.

Tides.

138. At the Mud Bar entrance, and here, the tides flow nearly at the same time, it being high water at full and change at 7^h 30^m; the springs range 12 feet, and the neaps about 7 feet.

Delta of the Ponga.

139. The Ponga has a large delta, through which there are three other channels to the sea, two to the N.W. of the Mud Bar, and one to the S.E. of the Sand Bar; and canoes pass freely from one to the other by keeping within a distinct line of breakers which surrounds the shore at the distance of about a mile.

Dembia River.

140. From the Sand Bar of the Ponga, 20 miles of a low mangrove shore with a detached breaker line leads us to the mouth of the river Dembia. It is said that this river will admit small vessels, but as no channel across the bar was found to have more than 4 or 5 feet at low water, it was not further examined.

Paps of Soumba.

The Paps of Soumba are due East from its mouth, and by that bearing it will be easily found. That mountain rises from a range of high land, to 1,700 feet above the sea; and Mount Kakulimah, 7 leagues farther to the S.E., attains the height of 2,900 feet. This group of hills covers a large space, and may be seen from a great distance.

Konebomby Bank and Island.

141. One side of a large triangular mud bank, which dries at low water, stretches off from the South point of the Dembia, about 5 miles to the south-westward, while its second side returns to the shore of Konebomby Island, leaving the intermediate western angle N.W. $\frac{1}{2}$ W. 6 miles from Alligator Point. This island and bank form the north-west side of Sangareeah Bay, into which the River Debreeka pours the waters of the mountainous region above mentioned. The south-east side of the bay extends from the mouth of that river to the Isles de Los, and is more than 20 miles in length. Large flats and shoals project into the bay from each side, leaving, at best, but a $2\frac{1}{2}$ fathoms channel between them, at low water.

Debreeka River.

Only one village and one canoe were seen in the Debreeka; nor were there any other appearances of its being frequented by either native or foreign traders. Should a moderate sized vessel, however, want to feel her way into it, let her bring Mount Kakulimah to the bearing of East; and timing her run

upon that course, so as to be as far in as the 4 fathoms line by *Debreehu River.* half flood, proceed till abreast of Alligator Point at the distance of about 2 miles. When this point bears N. b. W., she must alter her course a little to the northward, so as to bring the end of the ridge which lies to the westward of Mount Kakulimah in one with the termination of the Sandy Beach on the south-eastern shore. She will now deepen the water a little, and passing Creek Point by her lead, she may take up an anchorage at such a distance from the mouth of the river as best suits her purposes ; or, by sending a boat to mark the edge of the bank on the south side, she may enter it without much danger. The water here is unfit for Europeans, and very scanty, but wood will be found everywhere.

The shores of Sangareeah Bay are so intersected with crossing channels and creeks as to be in fact a series of islands, some of which are forming, while others are disappearing ; and an intelligent native of the neighbourhood asserted that all that space of shoal and rock to the South-west of Sandy Point, which then occupied several square miles, was two years before a part of the main, but washed away in the rainy season by a heavy S.W. gale ; the bared roots and stumps of trees affording some confirmation of his story. He further said, that during bad weather in westerly gales no canoe can pass within the 3 fathoms line, the rollers extending as far as the eye can reach to seaward ; and indeed from the "*Etna*," lying at that time S.W. of Alligator Point, they were seen to break 4 miles off shore. Twenty years hence, therefore, the features of this part of the coast may as little resemble the results of the present survey as they now do the old charts.

142. The bottom along the whole of this coast, from the Dembia to the Isles de Los, under 10 fathoms, is soft blue mud, into which the lead sinks deeply ; and from seaward when a vessel arrives in 5 fathoms, the water will be found at times so thick on the surface as to lead one to imagine that she is stirring up the bottom. The muddy tinge, however, of the shoal water is of a much lighter cast.

The southern or rather eastern shore of Sangareeah Bay terminates in a long salient promontory, and a small island, the extremity of which is called Tumbo Point, and off which, distant 2 miles, lie the Isles de Los or Idolos Isles.

CHAPTER IV.

FROM THE ISLES DE LOS OR IDOLOS ISLES TO THE
SHOALS OF ST. ANN.

Isles de Los. 143. THIS group consists of three inhabited islands, besides several bare rocks and reefs.*

Tamara or Footabar. Tamara or Footabar, the westernmost and largest of them, makes, when first seen, like two islands, and being 465 feet high, is visible 7 or 8 leagues in clear weather. It is 5 miles long and about a mile in breadth, and its curved form adds to the shelter it affords to the anchorage. It is thickly wooded, and from its northern end a reef projects about a quarter of a mile, on which H.M.S. Arethusa struck in 1811.

Factory Island. Factory Island is about $4\frac{1}{2}$ miles in length, and in some places not more than a quarter of a mile across.

Crawford or Ruma Island. Crawford or Ruma Island is scarcely more than a mile from end to end, and lies nearly midway between the two former islands. An extensive shoal of 2 miles long stretches off to the N.E., and apparently blocks up the passage between it and Factory Island.

144. Ships intending to enter the anchorage from the northward, should, as soon as Factory Island opens clear of the north point of Tamara Island, endeavour to make good an E.S.E. $\frac{3}{4}$ E. course, allowing for a tide of $1\frac{3}{4}$ knots (whether flood or ebb) until the North and South extremities of Factory Island are in one, bearing S. $\frac{1}{2}$ W. Then, the eastern extremity of Coral Island, in one with the western extremity of Crawford Island, S.W. $\frac{1}{2}$ S., becomes the leading mark, and will clear all the dangers to within half a mile of Crawford Island. But to be more secure in the event of flaws of winds and currents, keep the marks a little open immediately after entering between the heads of the two islands.

*See Plan of the Isles de Los, properly Idolos Isles, No. 612, m = 1·3 inches.

To enter by the South Channel, bring the northernmost *Crawford or Ruma Island.* peak of Factory Island in one with the western point of Crawford Island, N.E. b. E. $\frac{1}{2}$ E.

The tides must always be consulted, and therefore when *Tides.* coming from the westward, it is advisable to enter by the north channel with the ebb, and by the south channel with the flood.

The best anchorage is in 5 fathoms, about one mile or more *Anchorage.* north of the west end of Crawford Island.

The best water, and in the greatest quantity, which, however, is small, is to be obtained at Tamara landing place, at a sandy spot under a great Pullam Tree; but it cannot be embarked after three quarters ebb. Care should be taken to prevent the inhabitants from washing, which may be effected by filling a separate cask for their use.*

These islands having the benefit of refreshing breezes morning and evening, and affording also a secure anchorage, are admirably adapted for a refit. Beef and vegetables are easily *Refreshments.* procured from the British resident at Crawford Island, and fowls and plantains are readily obtained from the natives, at the same rate as at Sierra Leone.†

145. Between the Isles de Los and the sharp low point of *Tumbo Channel.* Tumbo there is a safe channel for vessels drawing 12 feet, and much time may be saved by using it, provided the tide be flowing. There are no dangers in it, and the bottom being mud affords good anchorage, if necessary. Some shoal water off the N.E. shoulder of Factory Island will be avoided by keeping Sharks Nose open of the point next to the northward of it. Still, without some good reason for hugging the shore, it will always be advisable to go outside the islands, where certainly no dangers are to be met with.

In approaching this part of the coast, it may be remarked, that though 3 fathoms in some places extends to a considerable distance from the shore, yet the soundings are so regular as to give ample warning. A tumbling sea at times may prevail in

* Commander Thomas Miller, H.M. sloop Ranger, in his remarks for 1850, says, "I found on Factory Island the best water on the whole of the West Coast of Africa."

† It is said that Mr. Campbell, an English merchant, cleared 100 acres of Factory Island for the cultivation of the *ground-nut*, in 1847, and that the natives from the adjacent shore flocked to him for employment.

a strong breeze, but, as no gales but the tornadoes, which are of short duration and off shore, are known upon this coast, a vessel need never be alarmed ; for she has always a good anchorage under foot, and no long swell or current to force her into danger.

Tides.

146. At full and change, it is high water at 6h. 35m. Ordinary rise of the spring tide 13 feet ; and the highest tide known 17 feet. The flood sets to the N.E., and the ebb in a contrary direction.

Tumbo Point.

147. Tumbo Point* is the S.W. extremity of an island bearing the same name, and separated by a very narrow and rocky high-water channel from the main land, through which nothing but canoes can pass. To the southward of this point, the land falls back to the north-eastward about 7 miles, forming an extensive but shallow bay, at the bottom of which is an inconsiderable stream called Tannaney River, accessible to canoes only.

*Tannaney
River.*

*Mahneah
River.*

148. Mahneah River, about 12 miles from Tumbo Point, is at low water scarcely accessible to the smallest coasting vessels, but the rise of tide exceeds 2 fathoms. The entrance is about 6 miles south-eastward from that of Tannaney, but the water between is very shallow ; and a mud bank, which extends south-westward from the west point of the entrance, is uncovered at low water to more than 2 miles from that point. A similar mud bank lines the east side also, leaving the channel between above a mile wide, but carrying only from 4 to 8 feet at low water.

To enter this river, it is only necessary to bring the western point of the entrance (while at the distance of five miles from it) to bear N.E. b. E. $\frac{1}{2}$ E. and then steer towards it in that direction, until you get close to the S.W. mud bank, when you may proceed along by the edge of that bank, in a convenient depth, according to circumstances. The water discharged from this river must be very great, as the ebb tide runs out with great rapidity.

*Morebiah
River.*

149. The River Morebiah is about 18 miles S.E. b. E. $\frac{1}{2}$ E. from the Isles de Los, and about 7 miles northerly from Matacong Island ; and though its breadth within the points nowhere

* See Chart W. Coast of Africa, sh. viii. ; and plan of the entrances of the Tannaney, Mahneah, and Morebiah rivers, No. 613, scale, $m=0\cdot75$ inch.

exceeds half a mile, yet it is far superior to the Mahneah, last *Morebiah River* described. The entrance is narrow, and forms an elbow at the commencement, which, to render perfectly safe, would require two buoys, because the coast is destitute of good objects to serve as marks ; but the following directions may be of use :—

In approaching the coast abreast of the river, when its opening bears E.N.E. $\frac{1}{2}$ E., distant about 9 miles, and Matacong Island S.E. b. E. $\frac{1}{4}$ E., there will be 6 fathoms water on black mud ; from hence, keeping the above course, the depth will decrease gradually, on a bottom of the same kind, to $3\frac{1}{2}$ fathoms at the entrance of the channel. With the rounding of the land between the rivers Mahneah and Morebiah bearing N.N.E., the south-east point of the entrance E. $\frac{3}{4}$ N., and the middle of Matacong Island S.S.E. $\frac{3}{4}$ E., that depth will be found at the spot marked by an anchor on the plan. From this position steer E.N.E. $\frac{3}{4}$ N., until the east point of the river bears E. $\frac{1}{4}$ S. and then stand in towards this point, or about East ; but remembering that both flood and ebb set partially over the extensive shoals that form the S.E. side of the channel : some of these, however, being dry at low water, and nearly so at high water, their steep boundary is perfectly discernible. In the elbow of the channel across the bar, the least depth is $1\frac{1}{4}$ fathoms at low spring ebbs, but this depth continues only a short way ; and from the time of altering the course to the eastward, or steering straight in, there will seldom be so little as 2 fathoms. Beyond the eastern point, the depth varies from 4 to 6 or 7 fathoms, and for the extent of 7 miles up the river it appeared to be clear of all danger.

About 4 miles within the east point of the river, a remarkable round mass of granite rock rises abruptly, about 40 feet from the water's edge. It is about 400 yards in circumference; and the natives assert that several similar masses are scattered about the plain, as far as the Sangaree Mountains, which, they say, are also of the same species of rock.

150. It is high water on full and change days at 7h. 40m., *Tides.* and spring tides rise 11 feet.

The contrast which this coast presents to the eye in different states of the atmosphere is very great. In clear weather, the view of the fertile shelving hills in the Isles de Los—the stupendous features of the distant mountains—the plains covered

with trees, and the beautiful little Island of Matacong, are highly interesting ; while in hazy weather, nothing is visible but a low mangrove coast, enveloped in mist, with an indistinct opening of a river here or there, or perhaps a column of smoke rising from a native village.

*Matacong
Island.*

151. Matacong Island. The beauty of this island consists in the luxuriance of the trees, in the verdure of those spots which have been cleared away, and in its gentle slopes, which render it a striking contrast to the low swampy tract opposite. It is upwards of a mile long ; and having been purchased from the natives by Mr. Gabadon, a merchant of Sierra Leone, is now an establishment for rearing cattle. The island appears to be of lava, yet on its summit there are two large pieces of granite ; the natives assert that they have been artificially placed there.

It is surrounded by mud banks and rocks in all directions, so that no vessel of any burden can lie at anchor within 2 miles of it. The channel which divides it from the main is nearly three quarters of a mile broad, but its muddy bottom at low water is left dry.

It is only necessary to add that in the extensive bay between this island and the Isles de Los there are no detached dangers. The coast is safe to approach, the soundings being gradual, and always affording good anchorage ; and it is in all parts accessible to large ships to the distance of 6 miles, which generally may be considered sufficiently near to distinguish the land, and often to recognize the mouths of the rivers.

*Sallahtook
Point.*

From Matacong Island to Sallahtook Point,* the general features of the coast are similar to those already described, but the mountains are too distant to be distinctly seen ; here and there a (Bombax) Cotton Tree, with smooth trunk and spreading foliage, rises above the surrounding thickets, and serves to identify the locality of the coast to those who are acquainted with it ; but a stranger can only make out the mouths of the rivers which he intends to enter by his latitude, or by running along the coast from some known point.

*River
Foreecarreah.*

152. From Matacong Island the coast trends to the eastward for 3 miles, where it turns abruptly to the northward, and

* See Plan of entrances of Foreecarreah and Mellacoree rivers, No. 614, scale, m = 30·75 inch.

forms the west point of the mouth of the River Foreecarreah ; *River Foreecarreah.* the interval being fronted with sand and mud banks, which extend more than 3 miles to the southward. The entrance of this river is above 2 miles wide, and the least depth is one fathom at low spring ebbs. To sail in, it will be necessary to pass close to the banks which project from the west point, but at the same time to be cautious in approaching them, as they are steep-to, and dry at low water. The outer sand will be apparent, even in fine weather, except perhaps at high water, and when seen may be safely skirted in 2 fathoms near low water, or in 4 at high water. In order not to get entangled in the fork of this sand, do not bring the highest part of Matacong Island to the westward of N. b. W. $\frac{1}{2}$ W. until the West point of the river bears N.E. Then haul towards the West point, and, as a general guide, keep the western side of the river aboard, though edging off occasionally to avoid the banks. The river is very short, as a ridge of rock nearly crosses it at a little distance from its mouth. The ebb tide here is extremely rapid, *Tides.* and the overfalls in the vicinity of the rocks are dangerous to those who do not possess a local knowledge.

153. The River Mellacoree is of considerable importance in *Mellacoree River.* the timber trade, and has better objects for marks than either of those rivers already described ; but though the facilities of its navigation are greater, yet buoys are indispensably requisite.

At 10 miles off shore there are 6 fathoms water, and with the river's mouth bearing E. b. N. it will be fairly open. Steer towards the South Channel in that direction, until the soundings have decreased gradually to about 3 fathoms, at low spring ebbs, with the following bearings : West point of Yellaboi Island, S. b. E. ; Sallahtook Point, distinguishable by the trees being higher than elsewhere, bearing S.E. $\frac{1}{2}$ S. ; Bentee Point,* known by a remarkably large tree, E. b. N. nearly ; the outer, or Tannah Point, E.N.E. ; and the rounding of the land to the northward of the river N.E. $\frac{1}{2}$ N. ; you will then be near the spot indicated by the outer anchor in the plan, and in the fairway. The Middle Ground is steep and dangerous, *MiddleGround.* but the soundings on the southern side are gradual, though the

* This point is on the South side of the river, and immediately opposite to another point, on which there are two very large trees.

Middle Ground. mud bank is very wide ; borrow therefore rather on this side, until nearly as far as Bellansang Point, when you must haul over towards the mouth of Tannah River, and there anchor. Higher up there are some patches of rocks in the middle of the river, but at low water they may be seen, as well as the deep water channel between them, which is a third of a mile in breadth, with a depth of 7 to 9 fathoms. By keeping the East point of the River Tannah bearing N.W. b. W. $\frac{1}{4}$ W. this channel may be used with safety ; and there being no further danger, a vessel may freely ascend the river to the Factories established abreast of Devel Island. The general depth varies from 5 to 9 fathoms.

North Channel. Besides the channel on the South side of the Middle Ground for which directions have been given, there is also an inferior entrance to the northward ; to take which, when 5 or 6 miles off shore, bring Tannah Point to bear E. $\frac{3}{4}$ S., and by carefully using the lead, a handy vessel may proceed in with safety ; for although at its termination it takes a slight turn round the N.E. corner of the Middle Ground, yet this is generally so well indicated that one can scarcely be deceived.

Tannah River. The Tannah River, which falls into the Mellacoree, is also navigable, though much smaller, and the tides are not so strong as in the main stream.

On account of the soft nature of the bottom, vessels may ground in several places in the vicinity of the Mellacoree River without being injured ; but a patch of foul ground which surrounds the long reef off Sallahtook Point must be carefully avoided.

Sallahtook Reef.

Tides. 154. It is high water on full and change days at 7^h 40^m, and spring tides rise 11 feet.

155. From Sallahtook Point,* the coast trends S.S.E. 7 miles to a small river, on the western point of which is situated Sangahtook Factory ; and about 1 $\frac{1}{2}$ miles to the westward of this point is Yellaboi Island, surrounded by mud banks that are dry at low water.

Yellaboi Island. Yellaboi is a low swampy island nearly 2 miles in length, and covered with trees, which, towards its western end, give it the appearance of an abrupt cliff, easy to be recognized ; and

* See Plan of the entrance of the Scarcies Rivers, No. 615, by Com. Boteler, $m = 0\cdot75$ inch.

abreast of the S.E. extremity of the island there is another *Yellaboi Island*, small river, called Inglis Pahboyeah.

Four miles S.S.E. from Yellaboi we come to a much larger *Corteemo Island*. island, with extensive mud banks to the north-westward, but with a deep channel between it and the main ; it is called Corteemo, and lies in the mouth of the Scarcies Rivers. These rivers are known on the coast by the names of Great and Little Scarcies ; the former is navigable for large ships, but the other is adapted to very small vessels only, and requires very careful pilotage.

156. The direct channel from Great Scarcies leads across *Great Scarcies* ! 7 miles of shoal water and of shifting banks, and therefore vessels engaged in the timber trade would do well to adopt the entrance through Yellaboi Sound ; for although the banks are steep, yet it is broad and deep, and a ship of the line, by taking a proper time of the tide, might moor off the South-west point of Yellaboi Island. To sail into this anchorage, bring *Yellaboi anchorage*. the West end of Yellaboi Island to bear E.N.E., and steer towards it in that direction, until the depth comes suddenly to 5 or 4 fathoms. Now change the course, and keeping in 4 or 5 fathoms, steer direct for Inglis Pahboyeah River, bearing E. $\frac{1}{2}$ N., but well open of the S.E. point of Yellaboi Island, until the West point of that island bears N. b. E. $\frac{3}{4}$ E. ; then haul in towards the island, and skirting along the steep mud bank which borders its South side, steer for its S.E. point, close to which a ship may anchor in $4\frac{1}{2}$ fathoms. In this process the least depth she will have will be $2\frac{1}{2}$ fathoms at low spring ebbs ; and this only occurs after hauling in for the island, and running along the edge of the mud bank.

A timber ship lying at this place could easily have her cargo rafted down to her, except during the *rains*, when it is affirmed that the strong winds occasion so heavy a sea as to make it unsafe to lie there with her raft ports open. With little difficulty, however, she might then go to Kakonkah Island ; *Kakonkah Island.* though the channel is narrow and crooked, and would perhaps require buoys to point it out. It would be scarcely possible to give intelligible marks for this winding channel, but it is so apparent in the plan, that by using the boat a-head and never passing over the 3-fathoms boundary line described therein, except in crossing the short flats, she can scarcely go wrong ;

*Kahonkah
Island.*

the bottom however is so soft, and the water so smooth, that no damage will arise from touching.

Tides.

157. It is high water here on full and change days at 7^h 10^m, and spring tides rise 10 feet.

Rollers.

158. The surf on this coast is extremely heavy, the Rollers sometimes curling in 5 fathoms, and breaking tremendously in 3 or even in 4. They may generally be expected at the latter part of the rainy season, and chiefly about the times of new moon ; therefore, during this interval, vessels should avoid anchoring in shallow water in unsheltered places, especially in the vicinity of a large river as the ebb tide tends much to increase the danger.

Harmattan.

The Harmattan season sets in with November, or about a month earlier than off the Gambia, and prevails through December, and sometimes even in the beginning of January ; but occasional intervals of clearer weather, accompanied by the refreshing sea-breeze from the N.W., sometimes afford a respite to its oppressive effects. Nor does the Harmattan blow uniformly, either in the same direction or with the same strength ; for it ranges through eight points of the compass from N.N.E. to E.S.E., and however fiery at the commencement, declines, after the first month, to a comparatively light breeze.

Haze.

The peculiar haze which more or less envelopes the coast of Africa at all times, is at its maximum during the influence of the Harmattan, and though partially dispersed by the tornadoes and the rainy season, returns with increased density when they cease. Strangers should, therefore, be on their guard when estimating their distance from the land, as the deceptive effect of this haze makes it appear much farther off than it really is.

Rainy Season.

The Rainy Season continues for four months, from May to September. The prevalent winds during that season are from the southward and westward, and are usually so light as to give way in the afternoon to the N.W. sea-breeze.

Tornadoes.

The tornadoes make their appearance before the rains, sometimes by a month, and again return after the rains have ceased. They blow from East to South-East, and with great fury, but they seldom last more than three hours. They are generally preceded by a light arch in the East, with dark clouds and occasional flashes of lightning. A dense white cloud in the

centre of the arch denotes a powerful blast. The instant those *Tornadoes*. appearances are perceived, all sails should be furled, and the vessel put before the wind, for which there is barely sufficient time. Many of the slave vessels which have failed in reaching their ports are supposed to have foundered in attempting to lie to.

159. From the point forming the south side of the entrance *Ballo Point*. to the Scarcies Rivers, the land trends south-westerly to Ballo Point; and thence to the mouth of Sierra Leone River, from which it is distant 6 leagues, it takes a more southerly direction, with irregular patches, and soundings varying from 1 to 7 fathoms. The former depth in some places extends 4 miles from the land ; and with Ballo Point bearing East, a ship will not be sure of carrying 7 fathoms at a less distance off shore than 14 miles.

160. The entrance to Sierra Leone River* is obstructed by *Sierra Leone*. / an extensive sand-bank, interspersed with large stones, called the Middle Ground, which in many parts is dry at low water. *Middle Ground*. There is a passage on either side of it, but that to the northward is only fit for small vessels, and even by them is rarely attempted, as they must cross a 2-fathoms bar, which appears to connect the eastern end of the Middle Ground with the main. The principal channel lies between Cape Sierra Leone and that bank, having a clear passage of more than a mile in breadth everywhere, with a depth varying from 5 to 10 and 12 fathoms.

Carpenter Rock, the only danger on the southern shore, lies *Carpenter Rock*. W. $\frac{1}{4}$ N. nearly a mile from the N.W. extremity of the Cape ; it shows at half tide, and may easily be distinguished by its breakers, and it should be well borne in mind that both flood and ebb set directly on this rock.

161. On the extremity of Cape Sierra Leone, a lighthouse, *Cape Sierra Leone Light*. 69 feet high, was erected in 1849, in which a Fixed Light is exhibited, visible 12 miles in clear weather. It stands in $8^{\circ} 30' N.$ and $13^{\circ} 17' 45'' W.$, and from it the Carpenter Rock bears W. $\frac{1}{2}$ N., and the western edge of the Middle Ground N.E. $\frac{1}{2}$ N.

Ships coming from sea will probably endeavour to strike soundings in $8^{\circ} 30' N.$ With 9 or 10 fathoms they will be at 3 or 4 leagues from the shore. Or if the weather be clear, they

* See Plan of Sierra Leone River, No. 616, scale, m = 1 inch.

Conspicuous Objects.

will have seen the high land called Lion Mountains, which should be brought to bear E.S.E. ; and when about 4 or 5 leagues distant from the land, the Cape will be seen, making like a low point, with a ridge of cocoa-nut trees close to the water's edge ; and shortly after, the lighthouse will be distinguished. Allowance for the tide must be made when nearing Carpenter Rock. The Cape may be passed within a quarter of a mile, with a commanding breeze, in 9 or 10 fathoms. From thence, a S.E. b. E. $\frac{1}{2}$ E. course for $3\frac{1}{2}$ miles will lead along-shore to the anchorage off Freetown ; rather keeping aboard the South shore, where the tides are less strong, and avoiding the Middle Ground and the numerous eddies round it, which are so strong as to affect the steerage.

Anchorage.

To anchor a large vessel off Freetown, bring Fort Thornton to bear about S. b. W., and King Toms Point W. b. N. where she will be a quarter of a mile from the shore, in 12 or 14 fathoms, muddy bottom, and where she may moor with an open hawse to the northward.

Approaching by night.

162. In approaching by night, from the northward, the light should not be brought more westerly than S.S.W., to avoid the Middle Ground ; and if from the southward and westward, keep the light to the southward of E.S.E. $\frac{1}{2}$ E., to avoid the Carpenter Rock ; but should the light not be seen, vessels are advised to anchor, in order to make sure of their position, as the tide and current sometimes combine in sweeping them out of sight of the land before morning, or even into the dangerous vicinity of the St. Ann Shoals.

Turning marks.

When working in or out of this river (which must never be attempted but with a favourable tide), stand no nearer the Middle Ground than 7 fathoms, nor with an ebb tide to within three quarters of a mile of the Carpenter. King Toms Point in one with the centre Barrack bearing S.S.E. $\frac{3}{4}$ E. clears the west end of the Middle Ground.

Tides.

163. The flood tide sets E. b. S. and the ebb W. b. N., and it is high water full and change at 7^h 50^m ; rise of tide, 12 $\frac{1}{2}$ feet. In the rainy season the ebb runs with great velocity, sometimes at the rate of 6 knots ; but in the dry season neither tide exceeds 2 $\frac{1}{2}$ knots.

Pilot.

Ships intending to proceed up the river beyond Freetown must take a pilot from the latter place ; for although there is no danger by steering E.S.E. for 5 miles from the an-

chorage, yet, after that distance is run, the navigation becomes *Pilot.* intricate.

164. From Cape Sierra Leone to 4 miles south of it, the *Cape False.* coast forms a slightly indented bay, bordered with trees, and terminating in a double rocky point, named Cape False, and bearing S. b. W. $\frac{1}{2}$ W. from Cape Sierra Leone. From thence to Cape Shilling the coast trends S. $\frac{1}{2}$ E. rather irregularly, having a small village 6 miles north of the cape, at the entrance of York river.

165. Cape Shilling is low and covered with trees ; at 4 or 5 *Cape Shilling.* leagues distant it appears like a small island. Here the mountains of Sierra Leone terminate, after forming a high double range which is visible at a great distance. The southern end of the range is the most elevated ; and though its summit is generally enveloped in clouds, it is often seen 14 or 15 leagues. Kent Town, a village of liberated Africans, stands on the side of a hill near the Cape.

166. Banana Islands very much resemble the Idolos Isles, *Banana Islands.* but the adjacent land is more elevated. They are extremely fertile, with plenty of water, though there are no running streams ; and, considering their proximity to the African continent, they are comparatively healthy—so much so, that the European residents of Sierra Leone frequently resort there to benefit their health.*

Ships may anchor off any part of the coast between Cape *Anchorage.* Sierra Leone and the Bananas ; the best anchorage off the latter being in 5 fathoms, about 2 miles from the shore, with the N.E. extremity of the islands bearing S. $\frac{1}{2}$ E.

* The Bananas consists of three islands, lying in a N.E. b. E. and S.W. b. W. direction. The largest, which is the north-easternmost, is not lofty. The middle island is volcanic, about 900 feet high, and covered with wood. It is separated from the N.E. island by a narrow, unnavigable strait, and from the S.W. island by a passage about 70 yards wide, with a line of soundings not less than 18 feet. The S.W. island is scarcely 70 feet high, and rather more than a mile in circumference. This island, being open to the sea breeze, is considered the most healthy, and thoughts were at one time entertained of establishing a hospital there. The anchorage is good, access to it easy, and it is sheltered from the strong S.W. winds, which prevail during the rainy season, by a reef of half-tide rocks, which run off its S.W. end to the N.W. A copious and permanent spring of fresh water is said to exist at its S.E. end.—*Remark Book of Commander Murray, H.M.S. Favorite*, 1847.

Tassa Point. 167. Six leagues S.S.E. from Cape Shilling is Tassa Point, off which are the Plantain Islands, and Bengal Rocks, forming the northern side of the entrance into Sherbro River. The space included between the Bananas and Plantain Islands is named Yawry Bay, into which several rivers and creeks discharge their waters ; but the shores of this bay are unapproachable, being bordered by a reef extending 4 miles from the shore, and many parts of which are dry at low water.

Sherbro River. 168. Sherbro River* is bounded on the north side by the main land and on the south by Sherbro Island, and was partially surveyed by Captain W. F. Owen in 1826. He found a good channel about 6 fathoms deep, but with several shallow and irregular patches. A reference to the plan will be a safer guide to vessels proceeding up the river than any directions that can be given, bearing in mind the state of the tide.

Tides. 169. At the entrance it flows at full and change until 6^h 0^m and rises 11 feet ; but at 20 miles within the river it is not high water for two hours later, and decreases in its rise to 8 feet.

Sherbro Island, which is upwards of nine leagues in extent from east to west, and ten miles wide in its broadest part, and thickly wooded, has its northern shore bordered with an extensive mud bank. The village named Jenkins, off which is the usual anchorage, is 20 miles distant from Cape St. Ann, the western extremity of the island.

Bagroo River. The width of entrance to this river, forming the sound between Sherbro Island and the main land, is 21 miles from Tassa Point on the north to Cape St. Ann on the south. This width decreases rapidly as you advance up the Sound ; and abreast of the village of Jenkins it is only 3½ miles wide. Four rivers fall into the Sound from the north and east : the Yaltucka, at 11½ miles S.E. from Point Tasso ; the Bagroo, 16 miles further east ; the Jong, 11 miles more to the south-east, and the Boom Kittam river, 8 miles beyond to the south. This last has its outlet close to Manā Point, the eastern limit of Shebar River.

* See Admiralty Plan of Sherbro River, by Captain W. F. W. Owen, R.N., 1826. Scale, 1 m = 0·6 inch. No. 617.

CHAPTER V.

FROM THE SHOALS OF ST. ANN TO CAPE PALMAS.

170. THE Shoals of St. Ann commence near Cape St. Ann, and extend from it 45 miles in a N.W. direction. They are very numerous, and are composed of knolls of fine light brown sand, apparently depositions from the waters of the various rivers in their vicinity. The outermost or North-west Patches have 15 feet over them at low water spring tides ; and from them the Peak of the South-west Banana Island bears E. $\frac{1}{2}$ N., distant respectively 22 and 16 miles. Between these patches and the Turtle Islands the ground is more or less studded with others of similar character, which no description can represent so clearly as the chart.

The tides into and from the bays and inlets north of Sherbro Island set across the shoals with velocities varying from three quarters to $1\frac{1}{2}$ miles per hour during the dry season, and it is most probable that during the rains the ebb may much exceed this. The rise of the water at spring tides does not exceed 6 feet.

There is a space of 15 miles from the North-west Patches towards the Turtle Islands, in which the knolls have not less than 14 feet water over them at low water ; but farther in, the depths become more irregular, and the shoal spots more numerous and extensive ; and as the Banana Islands are generally obscured by haze during the dry season, so as to leave no leading object, it is recommended not to approach any part of these Shoals of St. Ann. Vessels, therefore, from Sierra Leone bound to the southward should give a wide berth to the North-west patches, and keep in not less than 15 fathoms water, till they reach the latitude of $7^{\circ} 40'$. They may then steer S.S.W., gradually edging to the southward and south-eastward along the outside of the shoals in about 20 fathoms till they reach the meridian of Cape St. Ann, at which point the coast being quite clear, they may proceed along it in any depth or at any distance that may be desired.

Turtle Islands. 171. The Turtle Islands, like the Shoals of St. Ann, appear to be formed by depositions from the rivers near Sherbro Island. They are sand-banks, gradually acquiring vegetation, and some already thickly wooded. They stand upon an extensive flat of sandy bank, and have no navigable channels between them.

North Islet. The North Islet is in latitude $7^{\circ} 40\frac{1}{2}'$ N., and longitude $13^{\circ} 4'$ W. The tops of its highest trees are 72 feet above the sea ; and the highest upon any of these islands do not exceed 135 feet. Many natives were found upon them, and they seemed well supplied with domestic fowls, fish, and bananas.

Cape St. Ann. 172. Cape St. Ann* is in latitude $7^{\circ} 34\frac{1}{2}'$ N., and longitude $12^{\circ} 58'$ W. It is a low sandy point, forming the western extremity of Sherbro Island. The narrow opening between it and the Turtle Islands is choked with sand.

Shebar River. From Cape St. Ann to the opening called Shebar River the distance is 28 miles S.E. $\frac{1}{4}$ E. ; and the coast between them is formed by a sandy beach, free from rocks or shoals, but steep-to, having 5 fathoms close to the shore, over a bottom of fine sand. The land is thickly wooded, the forest everywhere advancing to within a few yards of the beach. The points which form the entrance to Shebar River have long sand-spits, on which the sea breaks with more or less violence, as influenced by the state of the winds and tides. The spit projecting from Manā Point terminates in a patch called the

Manā Point. East Sand-head, which uncovers at low water, and even when covered it may generally be distinguished from other parts of the bank by the greater violence of the breakers there. The narrow channel into the Shebar lies close to the northward of this sand-head, and carries 10 feet at low water over the bar. The highest trees on the Sherbro side should be brought to bear N.E. $\frac{1}{4}$ N. and kept on that bearing till the East Sand is well passed, and then a vessel may haul up for Manā Point. There is reason to believe that the above spits of sand are not stationary, and therefore a vessel with necessities that may lead her to attempt an entrance, should send a boat to mark the extreme end of one or both of them.

* See Admiralty Chart of West Coast of Africa, Sheet IX., from Sherbro Island to Cape Mesurado, by Captain Vidal and Lieutenant Bedford, R.N., in 1836-38. Scale, $7\frac{1}{2}$ miles to an inch. [No. 1363.]

173. At full and change it is high water at 6^h 45^m, and *Tides at Shebar.*
rises 5 feet. At anchor outside, in January, the flood at the springs ran three quarters of a knot, and the ebb 1½ knot; but both tides are much influenced by the wind, and therefore by the seasons.

174. From Manā Point the coast runs nearly in a straight line S.E. ¼ E. for about 60 miles to the entrance of the River Gallinas;* and though low and sandy, it is free from shoals, and steep-to, with very regular soundings from the offing.

The action of the surf from without, and of the current of the rivers Gallinas and Solyman from within, has had the effect of throwing up a thin barrier of sand 5 or 6 miles in length, and of thus forming between it and the shore a long, narrow lagoon, with several low, sandy islands, now covered with trees. One or two shifting openings in this barrier allow the escape of the river water; and through them are the only channels by which boats can communicate with the lagoon and the shore. The principal entrance at present is at the western elbow of Kamasoun Island, from whence a narrow channel will be found, through the surf, round either its north or south points, as may be seen in the Plan. The soundings from the offing are regular, and vessels may anchor at a mile outside the above islands in 7 fathoms.

Gallinas was long notorious as a slave market, and the *Slave Market.* former establishments for that purpose still exist on the south point of the river, as well as on Taro Island, which lies close *Taro Island.* to its entrance.†

The Solyman has the appearance of a considerable river, but *Solyman River.* at the period of the survey it was inaccessible except through the narrow opening into the lagoon already mentioned. A small wooded island stands conspicuously in its mouth.

Six miles to the south-east of the Solyman we come to the entrance of the small river Manna, which, though nearly closed *Manna River.* by sand-pits from both sides, affords access to boats.

In nearly the same direction, and 4½ miles farther, is Manna *Manna Point.* Point, low and rocky, with many scattered rocks both above and under water, out to a third of a mile from the shore.

* See Plan of Gallinas, by Capt. Vidal, 1837-9. Scale, ·7 of a mile to an inch. [No. 1690.]

† The slave establishments at Gallinas were destroyed by Commodore Sir Charles Hotham, K.C.B., in February 1849.

*Sugury and
Cape Mount
Rivers.*

*American
Factories.*

Cape Mount.

*Half Cape
Mount River.*

Po River.

St. Paul River.

Currents.

175. Eight miles south of Manna Point is Cape Mount ; the coast between them forming a bay about 2 miles in depth, into which flow the Sugury and Cape Mount Rivers. These streams have their entrances almost closed up by long, narrow strips of sand, similar to that fronting the Gallinas and Solyman, and like them are at times open to boats. On the shores of this bay, the coloured American settlers from Liberia have established several small factories, principally for the trade in camwood.

176. The headland of Cape Mount consists of several hills which rise to the height of 1,060 feet above the sea, and which at a distance have the appearance of a large island. The western point of the Cape is in latitude $6^{\circ} 44\frac{1}{2}'$ N. and longitude $11^{\circ} 23'$ W. ; and the base of the mount, from thence for 3 miles to the south-eastward, is formed by a succession of rocky points and small sandy bays. There the coast again sinks into a low continuous beach of light brown sand ; one entire forest prevailing over the entire face of the country, up to the summit of the Cape, and extending without intermission to Cape Mesurado, or Montserado.

177. About half-way between these capes there is a considerable stream with the quiet name of Half Cape Mount River, but in the dry season it is quite closed by a bank of sand across its mouth. Eight miles farther an insignificant stream is dignified with the name of the Po ; and within 4 miles of Cape Mesurado there is a fine wide river which is called after St. Paul.* Half way between them there are a few scattered rocks which extend out a quarter of a mile from the beach. From the south point of the St. Paul a dry sandy spit shoots out to the north-west, and from thence a shallow bar curves inwards towards the northern shore, leaving a narrow channel

* See the Plan of Monrovia. The currents along the coast S.E. of St. Ann's shoals, during the rainy season, from May till the end of October, are influenced entirely by the wind. When the breeze is fresh, a current of at least 2 miles an hour may be expected ; if the wind is south of S.W., the direction will be N.W. ; if to the west of S.W., an easterly or S.E. current running strong may almost be depended upon. During the month of November the set appears to be strong and invariable to the N.W. After the middle of December, until May, the current may be expected to be found running to S.E., perhaps 1 mile an hour on an average.—*Commander Murray, H.M.S. Favorite, Remark Book, 1847.*

for boats, with 7 feet in it at low water. On the banks of the *St. Paul River.*
river and along the shore there are several native villages
and some American factories, as well as a large settlement at
Caldwell.

Caldwell.

178. Three miles to the southward of the St. Paul, the river Mesurado issues from behind the Cape of the same name. Its entrance is rendered uncertain both in depth and direction; for the sand-banks yield alternately to the western swell, and to the heavy freshes produced by the periodic rains breaking through, sometimes close to the foot of the Cape, and sometimes half a mile to the northward, but generally leaving from 3 to 9 feet on the bar. Stockton Creek affords a back communication for boats between these two rivers, the banks of which and the island they include contain several thriving villages of American settlers. But the principal establishment is the town of Monrovia, which stands on the southern side of the Mesurado, immediately under the mount, and which, making a fair allowance for the reverses that occur in all young colonies, seems to offer a successful issue to the benevolent experiment of the Colonization Society in behalf of the coloured population of the United States.*

*Mesurado River.**Stockton Creek.**Monrovia.*

179. On full and change days of the moon it is high water at 6 o'clock, and the rise of tide is 3 ft. 6 in.

180. The N.W. point of the peninsula of Mesurado is in latitude 6° 19' 36" N. and longitude 10° 49' 30" W. It stands high in comparison with the adjacent land; and on its summit, which is 240 feet above the sea, a lighthouse has been erected, exhibiting a fixed light of a red colour. It stands in 6° 19' 15" N. and longitude 10° 49' 25" W. †

Fixed Red Light.

Wood and water can be procured here, but it is necessary *Refreshments.* to obtain the sanction of the authorities before sending Kroomen for the former, in order to avoid any trespass. The *Ætna's* boats watered in the river about two miles up, filling their casks from the stream. Fresh meat, vegetables, and

* Liberia was first colonized in 1822, and was acknowledged as an independent republic by Great Britain in 1847.

† See Chart of West Coast of Africa, Sheet X., from Cape Mesurado to Cape Palmas. Scale, $7\frac{1}{2}$ miles to an inch. And Plan of Monrovia Bay, by Capt. Vidal, 1836-9. Scale, '7 of a mile to an inch. [Nos. 1365 and 1690.]

This light is in bad order, and is not to be depended upon.—*Mr. W. B. Brand, Master, H.M.S. Crane, Remark Book, 1852.*

Monrovia.

sundry small stores are occasionally to be had from the settlers at the town. The Cape is composed of rocks covered with vegetation, and is steep-to, but the soundings are regular, and the bottom a fine light brown sand.

Anchorage.

The usual anchorage for large vessels is in 7 fathoms with the Cape S. by W. $\frac{1}{2}$ W.—lighthouse S. $\frac{1}{4}$ W.—and the middle of the town S.E. $\frac{1}{2}$ S.

181. From Cape Mesurado to the S.E. the coast-line is formed by a sandy beach, and the whole country is covered with forest. At 9 miles to the south-eastward from the Cape we come to a low point, round which a few rocks lie scattered, and close within the point there is a little rising ground. From thence to the Junk River* the same low coast continues with some backwater between the trees and the beach forming long narrow lakes with a few shallow outlets to the sea, and into which several rivulets appear to drain the waters of the adjacent country. Two hillocks lie behind the largest of those lagoons named the Crown and the Coxcomb ; ten miles S.S.E. $\frac{1}{2}$ E. of the latter, and $1\frac{1}{2}$ miles from the shore, there

Hoopers Rocks. lies a rocky patch called the Hoopers : it is of an irregular form, about a mile in length ; and the least depth of water on it is $2\frac{1}{2}$ and 3 fathoms. About a mile and a half farther to the S.E. there is another but very small 3 fathoms patch, from which Marshal Point bears E.N.E. $\frac{3}{4}$ E. $1\frac{1}{3}$ mile, and Bassa Point S.E. The ground immediately round it is coarse, and in some places foul, but inside of it the bottom shoals gradually up to 4 fathoms at the steep edge of the bar, which fronts the Little Bassa and Junk Rivers. To avoid these patches, as well as the Hoopers, vessels passing along shore should not come within the 10 fathoms line.

Junk River.

182. From Marshal Point a tongue of sand, partly dry and partly covered with violent breakers, stretches three quarters of a mile to the southward ; and close round the edge of these breakers is the entrance to the Junk River. On the bar there are only 4 feet at low water, and the channel is very narrow ; but inside it deepens to $1\frac{1}{2}$ and 2 fathoms, by steering towards the eastern shore round the hook at the extreme end of the tongue. Marshall, one of the Liberian settlements, stands on the west side of the river, about a mile from the bar ; and abreast of it there are 3 and $3\frac{1}{2}$ fathoms.

*Bar.**Marshall.*

* See Plan of Junk River and Marshall, by Capt. Vidal, R.N. [No. 1690.]

The mouth of the Little Bassa River is a mile S.S.E. of *Little Bassa River*. Marshall Point, but it is so effectually blocked up by the prolongation of the sandy tongue from that point, which is forced into it by the action of the surf, that it is inaccessible even to boats. Vessels may anchor off either of those rivers in 7 or 8 fathoms, on a clear bottom of sand and mud.

Bassa Point* is a little rocky cliff, thickly wooded, with sandy bays on either side. Inland from it 10 miles, and bearing N.E. b. E., there is a remarkable hill called the Saddle, which rises 1,070 feet above the sea, and appears to be the western extremity of a range of high land extending 24 miles in a S.E. direction to Mount St. John. Table hill reaches 1,100 feet.

Nine miles to the S.E. of Bassa Point, we come to Middle Bassa, where there is another Liberian factory; and 2 miles farther to Long Reef Point, so named from a barrier of rocks which stretches along shore nearly 4 miles, and to seaward three cables' lengths. The ground in the vicinity is all foul; and about S. b. W. $\frac{1}{3}$ W. 2 miles from the Point, in the stream of 10 fathoms, there is a sunken rock, with only $4\frac{1}{4}$ fathoms.

Between Bassa Point and Long Reef Point there are some *Lagoons*. pent-up waters and lagoons at the back of the beach, and about $1\frac{1}{2}$ miles from the former point there is a small red and white cliff, which renders the spot remarkable.

183. A slightly inflected coast, wooded throughout, but apparently populous, reaches from Long Reef Point to Grand Bassa Point in 11 miles. Two miles and a half short of the latter, a considerable river, the St. John, and two smaller streams, the Mechlin and Benson, discharge themselves through one opening into the sea. The American colonists of Liberia have two small settlements here, Edina† to the eastward of the opening, and Grand Bassa on the opposite bank. As usual with almost all the rivers on this coast, the entrance is blocked up by a very shallow bar, the least dangerous passage over which is close to the sandy shoulders of Macdowell Point. Inside, the water deepens to 2 and 3 fathoms, abreast of each of the settlements. About a mile outside, or W. b. S. of the opening, there is good anchorage in 6 or 7 fathoms, black mud;

Middle Bassa

Long Reef Point

Mechlin, St. John, and Benson Rivers.

Edina.

Grand Bassa.

Anchorage.

* Bassa is a corruption of Cabo das Baixas, that is, Cape of Shoals, of the old Portuguese charts.

† See Plan of Edina and Grand Bassa, by Capt. Vidal. [No. 1690.]

but farther to the westward there are several patches of foul ground, and one dangerous reef, the Niobe, on which the sea breaks furiously. Its outer edge is a mile off shore, and bears N.W. b. W. $\frac{1}{2}$ W. from the southern houses of Grand Bassa settlement, so that vessels standing in should not bring them to the southward of E.S.E. $\frac{1}{2}$ E.

Waterhouse Bay. To the southward of Macdowell Point the shore recedes a little, forming Waterhouse Bay, which is full of detached rocks and reefs.

Snapper Reef. The northernmost of them, the Snapper, lies half a mile W.N.W. from Waterhouse Point, and always breaks.

Dhouat Rocks. From Grand Bassa Point the Dhouat ridge of rocks projects a quarter of a mile to the N.W., and at the same distance farther out, a sunken reef, called the Yellow Will, assists in repelling the sea from the little nook called Bassa Cove. The Bissaw River runs into this cove, but it is an insignificant stream, and inaccessible to boats.

Grand Bassa Tides. It is high water here at full and change, at 5^h 50^m, and the tide rises 4 feet.

Tobocannee. 184. About 5 miles S.S.E. $\frac{1}{2}$ E. from Grand Bassa Point, we come to Tobocannee, a large native village—the coast in the interval being thickly wooded, and bounded by a waving line of small rocky points and sandy bays. Nearly a mile beyond the village, the land assumes the shape of a low angular point with a projecting reef, which ends in a detached block of stone a few feet above water, called the Tobocannee Rock ; and farther out, about a mile W. by S. from the point, there is a sunken rock on which the sea constantly breaks.

Outlying Reefs. 185. Continuing to the south eastward, the coast is in general rocky, with some sandy bays between the points, and these are fronted by numerous reefs, which extend off in some places half a mile from the shore, but leaving a boat channel within them. These reefs reach 7 miles along the coast, as far as Trade Town, but their continuity is broken at Young Sesters, a place with which trading vessels sometimes communicate ; and the same opening admits boats to pass inside of the reefs to New Sess River, the mouth of which is always accessible to canoes.

Young Sesters.

New Sess River.

Trade-Town. 186. Trade-Town is large and populous ; seated on the western bank of a small river about 4 miles from Young Sesters, it has both an American and an English factory. S.S.E. from that place nearly 2 miles, and about a mile from

the shore, there is a single detached rock, on which the sea *Trade-Town Rock.*

Little Culloh River is small, but accessible to boats, and fresh water may be obtained there from both wells and springs ; and at the town there is a good landing under the shelter of a rocky point. Three quarters of a mile S.S.E. of the town, and a long cable from the shore, there is a sunken rock ; and farther on, in nearly the same direction, but more than half a mile off shore, there are two other rocks, with an inner channel of 3 fathoms. The coast behind these rocks, about Monkey Peak, rises in rocky cliffs to 40 and 60 feet above the sea, with large irregular blocks of granite on the beach, over which the sea breaks heavily.

187. The entrance of Grand Culloh River is closed by rocks and sands ; and from thence the shore becomes low and undulating, with a coast line formed by numerous rocky points and sandy bays, off which, at distances varying from an eighth to a quarter of a mile, many detached rocks will be found, but with a passage for boats inside of them. Off Erick, close to the north-westward of Grand Culloh, there is a large black rock, connected by a reef to the shore.

188. The River Tembo is a small stream half a mile to the northward of Tembo Point, and is only at times accessible to boats. There is a small British trading factory at Tembo, and the place is easily recognized by Tobacco Mount, a conical hill 880 feet high, 13 miles due north of it.

From Tembo to Grand Cestos the coast is low and thickly wooded, with a sandy beach, and some straggling rocks. The Fen and Manna, two small streams, are in the above space ; the former is nearly closed by a ledge of black rocks, but canoes can get in and out by keeping close to the shore on the western side of them ; and at the mouth of the Manna may be seen the remains of an old factory.

Three quarters of a mile S.S.W. of the Fen, are the Fen Rocks on which the sea breaks ; others lie to the eastward of it, and the soundings are very irregular for 5 miles between them and the Manna Rocks. The latter lie more than a mile from the shore, and show themselves a little above water ; but there are several sunken rocks in their vicinity, on which the sea also breaks ; one bearing N. $\frac{1}{2}$ W. six-tenths of a mile,

Little Culloh Rocks.

Grand Culloh Rocks.

Errick.

Fen and Manna Rivers.

Fen and Manna Rocks.

Fen and Manna Rocks. another N.E. half a mile, a third E. $\frac{1}{2}$ S. six-tenths of a mile, and others more than a mile S. $\frac{1}{2}$ E.; but all of them may be avoided by keeping outside in the offing with 12 fathoms.

Cestos. 189. Three miles beyond the Manna Rocks brings us to Cestos,* another Liberian settlement for enfranchised slaves, but where Mr. Spence, an English merchant, has long had a factory. It stands at the entrance of the river, on St. George Point,† from whence the bar curves round to the northern shore with a terrific surf. In the middle of the bar there is a patch of rocks which divides the channel into two parts, but in neither of them are there more than 9 feet at high water. The rainy season, however, produces such fluctuations in the spits which project from the Patch or from the opposite points, that it is always advisable to employ a native to pilot the boat. After crossing the bar the water deepens to $2\frac{1}{2}$ and 3 fathoms, but again shoals, when past the Narrows, to $1\frac{1}{4}$ and 1 fathom.

Cestos Bay. In Cestos Bay the soundings are irregular both in depth and quality, but generally consist of coarse brown sand, or black mud; and convenient anchorage in $5\frac{1}{2}$ and 6 fathoms will be found with St. George Point S.E. about three quarters of a mile, and Cestos Point South. Wood and water may be easily obtained here. It is high water at full and change at 5^h 20^m, and the tide rises 4 feet.

Refreshments. *Tides.* *Cestos Reef.* Off Cestos Point there is much foul ground; a broad reef projects from it half a mile in length; a single rock with 3 feet on it lies just outside the reef; S.S.W., a long mile from the point, a schooner is said to have struck in 11 feet, though 5 fathoms was the least depth the surveying boats could find; and Spence Rock, on which there are 2 fathoms, and the sea therefore usually breaks, lies a mile and a quarter W. $\frac{2}{3}$ S. from the point, and W.S.W. $\frac{1}{4}$ W. from the factory. The reef and all these rocks are the more dangerous because they are all so steep that the lead can give little or no warning. The Plan shows their position satisfactorily, yet, as no marks have been given, a stranger should employ a pilot in entering the bay for the first time. A vessel passing along the coast may avoid them all, by keeping outside of 14 fathoms.

* See Plan of Cestos, by Capt. Vidal, R.N., 1837-9. [No. 1690.]

† A cotton tree of gigantic dimensions stands on St. George Point, close to a white house (a palm oil factory).—Remark Book, Mr. H. D. Beach, Master H.M.S. Waterwitch, 1848.

190. From Cestos Point south-eastward to Rock Cess Factory, the coast forms a sandy bay, but interrupted by two small rivers :—the Pooah, $3\frac{1}{2}$ miles from the Point, and the Pobamo 6 miles. The former is quite closed by rocks and sand in the dry season, but during the rains it is entered by canoes. The Pobamo carries 6 feet water, and may be entered close to the beach on the N.W. side, where the water is tolerably smooth, being there sheltered by a ledge of rocks which stretches out from the S.E. point of the entrance, and forms a kind of natural breakwater.

Outside of this ledge, and reaching all the way to Rock Cess Factory, with a passage inside of it for boats, there is a broad reef, which terminates about a mile W.N.W. of the mouth of the Pobamo ; and again, outside of this reef there are several rocks, two of which always show. First, the Pobamo Rock, *Pobamo Rocks.* which is low and black; the end of the breakwater ledge bearing from it E. $\frac{1}{4}$ S. $1\frac{1}{2}$ mile ; and adjacent to this Pobamo Rock there is a small sunken danger bearing N.E. of it half a mile, and another N.W. $\frac{1}{2}$ N. Secondly, the White Rock, standing 8 feet above water, and, like the others which have been described, steep-to, and detached from its neighbours.

A small river runs into the sea at Rock Cess Point, where the Factory will be seen a little farther to the S.E. ; and a mile beyond the Factory, the New River. The intermediate bay is sprinkled with concealed rocks, though boats will find 4 and 5 fathoms between them ; and it is sheltered by an extensive reef, with several black rocks which retain their Portuguese name, the Diabolitos. Foul ground with irregular soundings reach out for fully 2 miles to seaward of that reef ; and though nothing less than 3 fathoms was found, yet on the two patches where 4 and 5 are inserted in the chart, the sea was seen to break.

191. A mile from the New River there is another rivulet, but without a practicable entrance; and 2 miles farther a long spit has been formed by the Broonee River, which is seen over it, running in a parallel line to the coast for upwards of a mile and a half. In the rainy season, however, the freshes occasionally break through the heel of the spit, and convert it into a long, narrow island. The entrance is always open to light boats and canoes, though much obstructed by rocks and sands.

Bai Yah and surrounding Rocks.

There are several rocks off the Broonee, both above and under water ; the most conspicuous of them is the Bai Yah, standing 60 feet above the sea, and capped with dark shrubs, at the distance of a long mile from the shore. To the northward of it there are three sunken patches of rocks which generally break ; to the eastward, between it and a factory belonging to Mr. Spence, there is a cluster of dry rocks, with a detached reef more to the southward ; and outside of it, there are four other patches. The first, which is dry, lies half a mile to the S.W. $\frac{1}{2}$ W. ; the second bears S. W. $\frac{1}{2}$ S. more than a mile distant, and of some extent, but part of it shows above water ; the third, bearing W.S.W. $\frac{1}{2}$ W. and nearly a mile and a half off, is small, but carries only 3 feet water ; and the fourth N.W. b. N. not quite a mile, is only seen by its breakers.

Murray's Factory.

To the eastward of Spence's Factory, the coast forms a sudden bight, where there was, till lately, a similar trading establishment, called Murray's Factory ; and then, after passing the small river Coozoo, and two miles along a straight sandy beach, we come to the Sangwin,* which is one of the principal streams that water this part of the coast.

Sangwin River.

At first sight it is difficult to perceive the entrance, as a long ledge of rocks from the eastern point, and a high sandy spit from the northern point, seem both to cross over to the opposite shores ; but a reference to the plan will show that it is possible to carry 10 feet water into the river, by keeping in the best channel, which will be found between Wilson Point on the E. and the rocky patch a quarter of a mile to the westward of it. The channel is very narrow, and on rounding Wilson Point it deepens to 5 fathoms till the narrows are passed.

Sangwin Narrows.

Towards the last quarter of the ebb tide, the water at Sangwin Point, on the north side, just within the entrance, is fresh and good ; and when the bar is smooth, it will be found a convenient place for obtaining wood and water.

Tides.

192. It is high water here at the full and change a quarter past 5 o'clock, and the springs rise about 4 feet.

Close to the east of the Sangwin, and just within the beach, there is a lagoon with three branches, which, in the rainy season, are probably connected with the river.

* See Plan of Sangwin River, by Captain Vidal, R.N. [No. 1690.]

193. Baffou Point lies nearly 5 miles S.S.E. from the mouth *Baffou Point*. of the Sangwin, the intermediate coast bending inwards, so as to form a deep bay, into which two small rivers discharge themselves, close behind the point, and in which there is much foul ground, though the beach seems to be generally clean. Vessels working along shore should not make too free with this bay, for Baffou Rock, on which there are but 12 feet, lies in the *Baffou Rock* stream of the point, bearing from it N.W. $\frac{3}{4}$ N. 2 miles, and from Wilson Point, at the mouth of the Sangwin, S. $\frac{3}{4}$ E. $2\frac{3}{4}$ miles. The northernmost of the two rivers is called the Baffnee, and possesses a six feet deep though a very narrow *Baffnee River* entrance; the other is closed by a shallow sand bar from side to side; and both rivers are connected by one of those narrow lagoons which are so common on this coast. Baffou Point should not be approached within half a mile to the westward, as there is a sunken rock off its pitch; another lies close to the southward of it, and irregular reefs of nearly a mile in length project to the northward. A fair anchorage, however, may be taken in 8 fathoms, in mud and sand, with the point S.E. $\frac{1}{2}$ S. about a mile distant.

194. From Baffou Point it is $6\frac{1}{2}$ miles S.E. to Tassou. A low *Tassou* and thickly wooded country lies between them, with several streams of water barred up by the beach; and many confused heaps of rock lie strewed along the shore, as well as at a short distance in the offing. About this part of the coast the Krou *Krou Country*. Country begins; and its inhabitants, whose superior industry and docile habits, when compared with other African tribes, are proverbially known, seem very numerous. Parties came off from every village, expressing a great desire to trade, and displaying their little wares, among which it was observed that their fishing lines, made from the fibres of the palm tree, were uncommonly strong and neat.

Between Tassou and the next point of land issues the small river Toobah, in front of which there is a high rocky ledge, *Toobah River*. which divides the channel; the western branch is the safest, but at low water there are not more in it than 3 feet.

Off Tassou, and in the stream of 9 or 10 fathoms, there is a long range of rocks and dangers; three of them are above water, the Sha, the Wya, and the Keoba. The Sha Rock lies 2 miles *Sha Rock*. W.N.W. $\frac{1}{4}$ W. from Tassou Point; there is deep water round

Sha Rock.

it, except to the northward, in which direction breakers extend about 300 yards.

Wya Rock.

The Wya bears S.S.E. $\frac{2}{3}$ E. from the Sha not quite 2 miles, and S.W. b. W. from Tassou Point ; it is a large block of rock, with reefs half a mile in length, both to the northward and southward. Upwards of a mile to the S.E. from that southern reef, and S. b. W. $\frac{1}{3}$ W. from Tassou Point, there is a single rock with 9 feet over it ; and at another mile, still farther to the S.E., the large dry rock called the Keoba shows itself.

*Sunk Rock.**Keoba Rock.*

S.E. 1 mile from the Keoba there are breakers ; and 3 miles S.S.E. $\frac{2}{3}$ E. from it, with Bootou Point bearing E. b. N., lies Yule Rock, the last link of this chain of dangers, which extends almost 7 miles from the Sha Rock, in a direction nearly parallel to the coast.

Yule Rock.

195. Little Bootou is a large village upwards of 2 miles S.E. from Tassou Point, and 4 miles farther is Grand Bootou on a projecting point of the coast, behind which is the mouth of the Bootou River.¹ In the space included between the line of the Keoba and Yule Rocks and the shore, and between the two Bootous, the general depth is 6, 7, and 8 fathoms, but interspersed with many rocks, the particular description and positions of which would be useless. The shore is likewise strewn with large rocks ; several small rivulets spend themselves in the sandy beach, and the whole coast is densely peopled.

Grand Bootou.

Grand Bootou Point is easily known by its projecting form, by its town, and by a hill a mile to the south eastward, which, with the lofty trees that cover it, measures 265 feet in height. The river winds round between the foot of this hill, after having run for several miles parallel to the shore, and is apparently a branch of the River Sinou. A few rocks hang about Grand Bootou Point, but from hence to Sinou Bay the coast, though low, has a clean sandy beach, and between Yule Rock and Bloobara Point there are no detached shoals, so that vessels may stand in with safety ; but the soundings are irregular, with occasional patches of rocky ground, requiring care in anchoring.

Bloobara Point.

196. Bloobara Point forms the southern extremity of Sinou Bay ;* it is composed of three small rocky points, with sandy bays between them. The N. point at the mouth of the river is

* See Plan of Sinou Bay, by Captain Vidal, R.N., 1837-9. [No. 1690.]

about 57 feet high ; the middle point, on which there is a small English factory, is 41 feet ; and the land rises from the S. point to 60 feet. About 80 fathoms north of North Point there is a *Sinou Bay*, dry patch of rock called the Allens, leaving a clear passage between them and the point into Sinou River ; another open passage will be found between the Allens and Middle Reef ; and a third between this and North Reef, which stretches nearly across to the northern shore. These reefs were the only dangers discovered in Sinou Bay ; and vessels may safely anchor half a mile N.N.W. of Bloobarra Point in 8 fathoms, but the bottom should be previously tried, for it contains several small foul patches, though generally a clean sand.

There are three channels by which boats may enter Sinou River—between North Point and the Allens—between the Allens and a large oval sandbank to the eastward of them—and between that bank and Fishtown Beach. The first is the best, and by rounding North Point pretty closely, they may carry 5 or 6 feet over the bar at low water. The bar is very narrow, and, when crossed, the river suddenly deepens to 3 and 4 fathoms, but shoals again quickly after hauling up round Fish-town Point to the northward, where the deepest water will be found close along the Fishtown shore. Water and wood may be obtained here.

197. It is high water at full and change about 5 o'clock, and *Tide at Sinou*. the springs rise 6 feet.

198. The English Factory on Bloobarra Point stands in $4^{\circ} 59' 15''$ N. and $9^{\circ} 2' 5''$ W. and the curve of 20° of W. variation still seems to follow the line of the coast.

The American Colonization Society have built one of their *Liberian Settlement*. factories on the right bank of the river, a little to the northward of Fishtown Point.

Two miles to the south-eastward of Bloobarra Point the beach is interrupted by a rocky projection, about a mile inland of which a small round hill will be seen, but with that exception the coast preserves its straight, low, and sandy character for 11 miles to Little Krou, and is lined the whole way by a long narrow lagoon, parallel to the shore, and separated from it only by a thin barrier or strip of sand. This lagoon is fed by two rivers, the Bloobah and the Plassa, and a single opening through the barrier serves as a common outlet to the sea for

*Bloobah and
Plassa Rivers.*

both of them. Little Krou River communicates also with the lagoon, but in the rainy season it forces an opening for itself through the barrier. From thence the coast bends outwards to the rocky point of Settra Krou.

Krou Rocks.

199. In the eastern half of the interval we have just described between Bloobarra Point and Settra Krou, there are several off-lying rocks to which it is necessary to advert. 1. The westernmost of them lies a long mile from the beach, with Mount Plassa E. b. N., and a little open to the left of the common opening of the Plassa and Kroubah rivers, which bears E. $\frac{3}{4}$ N. It is very small, with 6 fathoms close round, and generally breaks. 2. S. by W. of the above opening, and W.N.W. of the large tree at Little Krou, there is a wide patch of rocks, some showing above water, some covered, and some only breaking, but all steep-to. 3. A mile farther S. by W. than that patch there is a single rocky head which generally breaks ; and even if it should not show, it may be easily avoided by keeping the Krou Rock, which shall be next described, always to the eastward of S.E. 4. The Krou Rock is a bare irregular mass of stones, with 5 fathoms close round it, except to the eastward, where it is connected with other rocks and long reefs which stretch over in the form of an S nearly to the point of Settra Krou. The outer mass bears W. by N. 2 miles from that point, and though it is sufficiently obvious during the day, and the breakers generally audible at night, yet vessels are recommended after dark to keep in the stream of 16 fathoms at least. 5. From the S shaped reefs connected with the Krou Rock, other branches diverge to the N.W. and N.E. so as nearly to fill up the space between Little Krou and Settra Krou.

Little Krou.

At Little Krou there is a palm oil factory belonging to some English merchants ; and ships' boats may conveniently land under the shelter of a ledge of rocks which projects from the point. The large tree which marks the position of this village stands on its eastern side, and may be plainly seen from the offing. At Settra Krou likewise there is a remarkable tree, which may be distinguished a long way off ; and boats may land there safely on the north side of the point.

Settra Krou.

From Settra Krou, a length of 3 miles of beach, with long parallel ledges of dry rocks from the projecting points, leads us to the village and river of Kroubah, which in the rainy season is open, and at which cattle may be obtained.

S.S.W. of Settra Krou, two-thirds of a mile, there is a rock which breaks, with 7 fathoms close to it ; a long mile W. by N.

Neatano Point there is another breaker, in 10 fathoms ; and in the interval between those two rocks, but nearer to the shore, there are several detached shoals with deep water close alongside. Again, S. by W. $\frac{3}{4}$ W. fully $2\frac{1}{2}$ miles from Neatano in the stream of 14 fathoms, a rocky patch with 8 fathoms over it was found, and a mile and a half E.S.E. of this rock in the stream of 11 fathoms, the natives allege that there is another and nearly a-wash ; and though the boats could not find it, nor the soundings indicate any rise in the ground, yet on this extraordinary coast it is very possible that such a rock may exist, as most of the dangers are steep-to. For these numerous rocks, vessels whose business leads them in-shore must keep a sharp look-out, but those which are merely running along the coast are advised not to approach it within 3 or 4 miles, nor into water less than 25 fathoms.

*Neatano Point,
and many
Rocks.*

From Neatano three-quarters of a mile south-eastward lies Tootoo Point. From thence to Nanna Krou, the coast is a low sandy beach with many rocks in front ; and half-way between them is the outlet of the small river Dehweh, with a lagoon behind the beach about $1\frac{1}{2}$ miles in length, which is fed by the two branches of this river.

*Tootoo Point.
Nanna Krou.*

Dehweh River.

200. From Nanna Krou the coast bends outwards, forming King Wills Bay ; and near the centre of the bay there is a small islet about 15 feet high, covered with brushwood. The shore appears to be very populous, and two small English factories have been established here for the collection of palm oil, there being tolerably good landing near them on either side of the islet, which affords some little shelter. There are a few rocks 2 cables' length off the point of King Wills Town ; and again off the point two-thirds of a mile further eastward ; but inside of these latter rocks there is a narrow 3 fathoms channel.*

*King Wills
Bay.*

* H.M.S. Crane anchored of King Wills Point, bearing E.N.E. $1\frac{1}{2}$ miles in 10 fathoms. On getting under way, we observed a heavy break ; we cast towards it, and saw distinctly the sea breaking over a small patch of rock, not continually, but at intervals of five or six minutes. The bearing of King Wills Point from it was E.S.E. distant about $3\frac{1}{2}$ miles.—*Mr. W. P. Braund, Master, Remark Book, 9th Sept. 1852.*

*Ooro River,
Western Mouth.*

The western mouth of the Ooro River is $3\frac{1}{4}$ miles to the south-eastward of King Wills Point ; the intermediate coast is low and sandy, with a lagoon inside of the beach, and a little further to the eastward there is a rocky patch 300 yards from the shore, with a $2\frac{1}{2}$ fathoms channel between them, and steep-to on its outer side.

Swallow Rocks. 201. A mile and a half S.S.W. of that patch lie the Swallow Rocks, consisting of two ledges, which generally break, and a 4 fathoms rock half a mile S.W. of them. From the southern ledge the above-mentioned mouth of the Ooro bears N.E. by E. $\frac{1}{4}$ E. and in one with a hill 260 feet in height, which stands a couple of miles in-shore. There are 10 fathoms close to the ledges, and 8 fathoms within a cable's length of the S.W. rock.

*Ooro River, E.
Mouth.* The eastern branch of the Ooro falls into the sea 3 miles from the former branch, and the whole space between them is occupied by successive chains of rocks which stretch out more than a mile from the beach. Its mouth is concealed from vessels in the offing by large granite boulders, but it, as well as the western branch, is accessible to the country canoes.

Subono. Subono, or Little Wappi, a large native village, stands on the right bank of the river near its mouth.

Wappi Point. 202. South-eastward $1\frac{1}{2}$ miles from Little Wappi across a small bay is Wappi Point, with a lagoon of no great extent, but which spreads both ways along the coast, and on which are the remains of another native town that was called Great Wappi. The outlet of the lagoon is obstructed by rocks, and a broad ledge, partly above and partly under water, stretches in a westerly direction for nearly a mile from the shore. Due S. from the end of this ledge about a mile, and S.W. by S. from the opening of the lagoon, there is a rock called Flat Island by our traders, but by the natives Totwarrah. There are 10 fathoms within half a mile of it to the westward and southward; but from the bearing of S.E. by S. all round its eastern side confused masses of reefs and shoals extend nearly to Middle Nifou, sweeping round far to the southward, and almost filling up the whole space between the exterior reef and the shore.

Little Nifou. Inside of these reefs, and therefore sheltered by them, there is good landing at Little Nifou, on the western side of its rocky point ; and on each side of it there are streams of water which are open in the rainy season.

203. At Middle Nifou there are two small rivers, one from the N.W. and the other from the N.E.; they unite in a short lagoon, the outlet of which is open only in the rainy months. The town lies between these, and a mile farther there is another native town called Great Nifou, off which a shallow reef projects three-quarters of a mile S.W. $\frac{1}{2}$ W., with a detached 3 fathoms rock half a mile to the westward of the end of the reef. *Middle Nifou.* *Great Nifou.*

204. Two miles from Great Nifou a stream of some magnitude falls into the sea; it is called the Droo, and carries 6 feet over its bar, inside of which it deepens to 4 fathoms. The best entrance is round the southern point, which is low and rocky, with some large outliers; the opposite point is a sandy spit, which stretches well over towards those rocks. Off its mouth there are several dangers; one of them, called by the natives the Drootah, is a large block of stone which shows itself. But a sunken reef *Drootah Rock.* stretches out from it to the westward; and to the northward there is a large patch of foul ground. A ledge of three-quarters of a mile in length lies outside of the south point of the river, but there is a 3 fathoms channel between them. Two breaking rocks may be seen to the eastward of this ledge; and all the soundings in its vicinity as well as round the Drootah are suspiciously irregular, with rocky ground; so that, unless with a view of communicating with the shore, no vessel should venture to approach it here within 20 fathoms, or about 3 miles.

205. From the rocky point of Droo River it is about 3 miles to the Esereoos River, close to the mouth of which there is a large rock, and some scattered rocks a little to the westward of it; as well as a patch on which the sea breaks—but there is a channel 2 fathoms deep close along the coast inside of all these rocks. Baddoo consists of four towns, which stand on the coast to the westward of the river; and in their vicinity the ground has been well cleared by the natives, and produces abundance of rice. There is tolerably good landing under the lee of the large rock above mentioned, which is about 20 feet high. The entrance of the river is only passable by canoes. *Esereoos River.* *Baddoo, or the Four Towns.*

Baddoo Point curves out to the southward from the mouth of the river; it is low and sandy, but half a mile off its pitch there are several dry rocks, the largest of which is called Dead Islet, with several outlying reefs. The outermost of them bears W. $\frac{3}{4}$ N. from the islet $2\frac{1}{2}$ miles, another N.W. by W. nearly a *Dead Islet.*

Baddoo Shoals. mile ; and they are all known to seamen by the general name of the Baddoo shoals.

Monkey Rock. 206. The Monkey rock lies S. by E. $2\frac{1}{4}$ miles from Dead Islet, and between them there are several reefs and rocks, some of which show above water ; the Monkey is $1\frac{1}{4}$ miles from the shore, and as well as the breaker to the westward of it, in the stream of 10 fathoms, but all the soundings for half a mile to the south-westward of it are irregular, and the bottom foul and rocky.

Castle Rock. Several of these insulated rocks are scattered along this part of the coast ; a large one called the Castle bears S.E. by E $\frac{1}{2}$ E. from the Monkey $2\frac{1}{2}$ miles ; it rises perpendicularly in 10 fathoms water, and about three-quarters of a mile from the beach ; and vessels should not stand so far in as to bring these two rocks on opposite bearings.

The interval of coast between the two points abreast of Dead Islet to Castle Rock possesses several small rivers and lagoons, but they are all barred up in the dry season. There is a safe channel for boats with 2 or 3 fathoms, and within 200 yards of the beach, leaving the shoals and islets outside to seaward.

207. These reefs and dry rocks terminate about a mile to the eastward of the Castle Rock, and from thence to the River Ferroowah, the sandy beach is straight and safe. That river, with its apparently large opening, is only accessible to boats and canoes when the bar is smooth : its western point is a low spit of sand, the eastern point a bold rock, on which stands the native town of Katoo.

The rocks and boulders recommence at this river, there being three near its entrance, and reefs extend from them nearly half a mile to the southward. A large rocky patch was found two miles W. by S. of Katoo Point with only 6 fathoms on it : and nearly in the same direction, but 5 miles off, several canoes were fishing on a still larger patch of foul ground at the depth of 20 fathoms. Information likewise was obtained of a third patch with 7 fathoms in the stream of 19 fathoms, but the surveying boats failed in finding it. And fourthly, the Pashoo, which lifts its two rocky heads above water in the stream of 9 fathoms, and bears S. by W. a mile and a half from the mouth of the Ferroowah.

Rocks off Katoo.

Pushoo Rock.

208. From Katoo Point to Subbo Point the coast forms four sandy bays with rocky points, and many large dry rocks breakers,

inside of which there is a boat channel. The native towns of Picaninny Sesters and Wayako are in this interval.

In front of Wayako, nearly a mile from the shore and two thirds of a mile E.S.E. of Pashoo Rock, there is a shoal patch of 3 fathoms, with deep water on either side of it. Several rocks lie off Sesters Point, at various distances. 1st. The Subboo, a large Black rock, N.W. by W. two thirds of a mile from Subboo point. 2nd. A sunk rock between them. 3rd. A dangerous rock S.W. by W. $\frac{1}{2}$ W. from the point, with 10 fathoms round it. And 4th. Two patches S.S.W. from the point, and carrying $2\frac{1}{2}$ and 3 fathoms.

Sabboo and other Rocks.

From Subboo Point a low sandy beach clear of rocks extends nearly 2 miles to the south-eastward, but when it turns more to the southward towards Sesters Point it receives the usual accompaniment of shoals and off-lying rocks. Of these the large rock called the Carpenter will be easily seen bearing S. $\frac{1}{2}$ E. a mile from the point, and S. by W. $\frac{3}{4}$ W. from the highest part of Sesters Hill. It may be safely approached from the southward; but a long chain of rocks, above and under water, stretches from it towards the point, round which there is a very narrow 4 fathoms channel.

Sesters Point.

Carpenter Rock.

209. Behind the point Sesters Hill rises 210 feet above the sea, but between the hill and the point there is a narrow lagoon just inside the beach, and nearly 3 miles in length, into which the Grand Sesters River pours that portion of its waters which cannot find sufficient vent over the bar. The mouth of this river is about a mile to the eastward of the point; its western point is low and sandy, while the eastern point is rocky, and pushes a ledge almost across to the opposite shore, so as to leave a very narrow entrance, through which boats can pass only when the water is tolerably smooth.

Grand Sesters River.

On a rising ground near the eastern point stands the large native town of Grand Sesters, and two English factories, in front of which a large rock, called Factory Island, sufficiently breaks the swell to allow boats to run upon the beach with tolerable security. Vessels generally anchor in 13 or 14 fathoms on a muddy bottom, with Factory Island N.N.E. upwards of a mile distance.

Grand Sesters. Factory Island.

Two miles to the eastward of Factory Islet we come to Ranger Point, with a large native village. The point is rocky,

Ranger Point.

but the intermediate coast is a sandy beach with a few detached rocks outside of it, and a boat channel of 2 fathoms depth between them and the beach. Some rocks lie scattered off the point also to a distance of 300 or 400 yards. A mile N.E. by E. from Ranger Point, the land rises into a kind of table-hill, so as to give the top of its dense outline of trees an elevation of 190 feet ; and on the same line of bearing, 2 miles farther, there are two little hummocks which are named the Paps.

From Ranger Point 8 miles to the eastward the coast is low and thickly wooded, with a clean sandy beach, and quite free of rocks as far as a small nameless river, which was open, but the surf on the bar did not permit the boats to enter. Both points of the entrance are low and sandy, and there is a village on the eastern one. This river comes from the northward with a small branch from the westward. N. by E. $\frac{3}{4}$ E. from its mouth, and 15 miles inland, there is a hill 730 feet high, which from its appearance is called the Sugar-loaf, and several small hillocks lie between it and the shore. There is also a remarkable grove of trees $1\frac{1}{2}$ miles from the eastern point : so that this part of the coast is easily recognized.

Sugar-loaf Hill.

Garraway River.

Bushmans Reef.

Garraway Point.

Garraway Long Patch.

Tyrh Rocks.

Solitary Rock.

210. An uninterrupted sandy beach continues 7 miles farther to Garraway River,* the northern side of the entrance to which is formed by a long low spit of sand, with two straggling native villages called Bushmans Towns, and in front of them a shallow reef extends off shore half a mile. Two rocky patches lie to the W.N.W. of this reef, one at half a mile, and the other a mile from it ; the latter is three-quarters of a mile from the shore, and there is a depth of 6 fathoms in the channels between them.

Garraway Point on the eastern side of the entrance, is rocky, but a cluster of large rocks, some above and some under water, covers it from the sea ; and outside this cluster, with a narrow interposing channel of deep water, there is an irregular reef of considerable extent, called the Long Patch, its two ends bearing from Garraway Point W. by N. and S. $\frac{1}{2}$ W. and its southern angle S.W. by S. a mile distance. Another reef, but of a more compact form, lies immediately to the westward of Garraway Point: it has been named the Tryh Rocks, and there is a channel in the river both E. and W. of it. Lastly, there is a solitary rock in the stream of 9 fathoms, bearing from the point W. $\frac{3}{4}$ N.

* See the enlarged Chart of Cape Palmas, No. 1697,

distance $1\frac{1}{2}$ miles. This river is accessible to canoes, and to boats in moderate weather, and the usual channel into it lies between the North Sand spit and a large rock near the middle of the entrance, which is connected with Garraway Point by a chain of smaller rocks.

There is a remarkable tree behind Garraway Town, the top of which is 200 feet above the sea; it lies E.N.E. three-quarters of a mile from the point, and is used as one of the objects to distinguish the position of the Coley Rock, which lies 7 miles in the offing. In the direction of the tree, but nearly a mile farther inland, there is also a conspicuous clump of trees. Green Islet lies a mile to the eastward of Garraway Point, in the middle of a large breaking shoal, between which and the sunken rocks near the beach boats may pass in $2\frac{1}{2}$ fathoms.

Garraway Tree.

Green Islet.

211. From Garraway Point it is 8 miles S.E. by S. to Fish Town Point: the coast between them forming a bay with a clean sandy beach. In this space are three small rivers: the first, the Jidah, which is closely barred by sand during the dry season; and a mile to the westward of which there is a rocky patch a quarter of a mile off shore, with a 4 fathoms channel on the inside, and 7 fathoms close to seaward. The Jidah, which flows from the N.E. appeared to communicate with the Garraway River by a narrow lagoon, parallel to the coast. The town of New Garraway is on the eastern side of the entrance. Secondly, the Deeah, a small stream, the entrance to which is open, and sometimes passable for boats. From the mouth of the Deeah, a long reef on which the sea breaks with violence extends W. $\frac{3}{4}$ N. $2\frac{1}{2}$ miles; on its outer end there is a very shoal patch, close to which there are 8 fathoms, and on either side of the reef 6 fathoms. Thirdly, in the bight of the bay, the River Manoh, which also is open, though but seldom accessible, from the high surf that rolls in along Fish Point. About half way between the two last rivers a reef, which is steep-to, lies more than half a mile from the beach. A little rocky islet stands close in to the mouth of the Manoh.

New Garraway.
Deeah River.

Manoh River.

212. On Fish Town point, which rises about 40 feet above the sea, stands the large native town of that name, and near it a factory, established by Mr. Spence, an English merchant, for collecting rice, which is abundant in this part of the country. E. $\frac{1}{2}$ N. from the point, the Table Hill of Kablah, with its large

Kablah Table Hill.

tree, which stands 290 feet above the sea, is a valuable sea-mark for the several dangers to the south-westward of Cape Palmas.

Fish Town Reef.

Cape Shoal.

A reef projects two-thirds of a mile from Fish Town Point, on the bearing of W., with 7 fathoms close round it; and there is a detached breaker in 10 fathoms, a mile N.W. $\frac{1}{4}$ W. from that point. Outside of these, at 2 miles S.W. by W. $\frac{1}{4}$ W. from Fish Town Point, is the Cape Shoal, a ledge of rocks always visible, the sea generally breaking on them with great violence, and sometimes on two straggling heads a little to the eastward of the shoal. The channel between Fish Town Reef and these rocks is rather more than a mile wide, and the depth in it varies from $5\frac{1}{2}$ to 8 fathoms, and 7 close to the points of the reef. The bottom is generally a coarse brown sand, with several rocky patches.

Coley Rock.

213. At $2\frac{3}{4}$ miles W. $\frac{1}{2}$ S. from the Cape Shoal, the Coley Rock will be found; it is a mere pinnacle, on which the least water is 6 feet; with 10 fathoms to the eastward, and 13 close to its other sides. From this very dangerous rock, which was discovered in 1795 by Captain Coley, of the ship Queen, of London, the remarkable tree at Garraway bears N. $\frac{1}{4}$ E $7\frac{1}{2}$ miles, Kablah Hill E. by N., Rock Town Point E. by S., and Cape Palmas E.S.E., $9\frac{1}{2}$ miles. The ground between Coley Rock and the Cape Shoal is very uneven, having several rocky heads with 4 or 5 or 6 fathoms, and deeper water close around them; two others will be found outside of the Coley W. by N. a third of a mile, and W. nearly 2 miles. The quality of the bottom is as variable as the depth, being of rock, coarse sand, gravel and coral. Vessels bound to Cape Palmas with a leading wind may safely pass inside the Cape Shoal, which is always distinguishable by its breakers; and by keeping nearly mid-channel between it and Fish Town Reef, they will have 7 fathoms; but at night it will be advisable to pass outside of all, with Palmas Light E. $\frac{3}{4}$ S. or E. $\frac{1}{2}$ S., or if the light be not seen, in 25 or 30 fathoms.

Middle Point.

At Middle Point, a little to the eastward of Fish Town, there are a rivulet and a native town; and a reef which projects about a quarter of a mile W.S.W.

Rock Town.

214. Rock Town Point, where there is a large native settlement on each side of a small river, which is quite barred in the dry season, is 54 feet above the sea, and makes very distinctly

to vessels in the offing. A succession of reefs extends from the point nearly a mile W. and W.N.W., but between it and them there is a narrow $3\frac{1}{2}$ fathoms channel.

From Rock Town Point a sandy beach of about 4 miles in length, and but little curved, terminates at Palmas River. In this space there are two reefs which show themselves by heavy breakers. The outer one is a mile S.S.E. $\frac{1}{2}$ E. from Rock Town, and rather more than half a mile off shore; the other is not quite a quarter of a mile off shore, with a narrow channel of $3\frac{1}{2}$ fathoms, and between the two channels there are $5\frac{1}{2}$ fathoms.

215. Cape Palmas is a rocky peninsula, joined to the main *Cape Palmas.* by a low sandy isthmus ; the highest part of it, which is near the middle, is elevated 74 feet above the sea. Its eastern end is covered by a large collection of native houses called Grand Town, but on the remainder of the peninsula a settlement was formed by the Colonization Society of Maryland, in 1835. It has been named Harper, in honour of Mr. R. G. Harper, of Baltimore, an able and ardent advocate of the poor Africans, and seems likely to answer the enlightened and benevolent views of its founders. Mr. Wilson, an active and pious missionary, had established himself about half a mile from Harper, and at the time of the survey was zealously devoting himself to the religious and moral instruction of the younger native population.

*Harper,
American
Settlement.*

216. Palmas River washes the northern side of the peninsula; *Palmas River.* its entrance is about 100 yards wide, but several rocks lie in the channel. At low water a depth of 3 feet was generally found across the bar, inside of which, as far as the boats went, it seldom exceeded a fathom.

In the direction of the peninsula there are some patches of rock : the first lies a cable's length from the Cape, with 10 feet at low water ; the second is partially uncovered at low water and lies two cables' lengths from the Cape ; and the third or outer rock, which is very small, and carries 9 feet water, lies about 500 fathoms from the extremity of the Cape. The soundings in their vicinity are irregular, and the bottom foul ; but on either side of the 10-feet inner rock there are channels with 3-fathoms water ; and again, between the large middle patch and the outer rock there is a wide opening with a depth of $4\frac{1}{4}$ fathoms. Strangers, however, should not make free with

these passes, even when coming from the eastward and bound to Harper anchorage, but should round all in 9 or 10 fathoms.

*Russwurm
Island.*

On the south side of Cape Palmas a small rocky island, nearly covered with grass and shrubs, and formerly used by the natives as a depository for their dead, has been called Russwurm Island, after the first governor of the American colony. It is nearly 600 yards in length, with an average breadth of about 70 yards, and a rocky pinnacle on it rises 43 feet above the sea. A ledge of rocks extends 100 yards from its eastern end, and terminates in a large rock above water; and half a mile to the eastward of the island, and nearly a quarter of a mile from the shore, there are some breakers with $4\frac{1}{2}$ fathoms close to their south side. Not quite 2 cables' lengths W. $\frac{1}{4}$ S. from the western end of the island there is a dangerous rock with only 3 feet of water.

The channel which separates the island from the cape affords a good passage to boats, provided they avoid a small rock which lies in the middle.

Behind Cape Palmas there is some elevated land, the highest part of which is called the Flat Mountain, and bears N. by E. $\frac{1}{2}$ E. from the cape, distant 25 miles.

The outer edge of the Bank of Soundings approaches the cape within 13 miles.

Palmas Light. The spirited inhabitants of this colony have erected a lighthouse on the pitch of Cape Palmas: the light is fixed, and stands about 100 feet above the sea.*

Tides. 217. On the full and change days of the moon it is high water at 4^h 30^m; but the rise of spring tides scarcely exceeds 4 feet.

* The light on Cape Palmas can be seen about 9 miles off.—*Mr. W. P. Braund, Master, H.M.S. Crane, 1852.*

CHAPTER VI.

FROM CAPE PALMAS TO CAPE THREE POINTS.

218. Another of those narrow stagnant lagoons, so many of which have been already described on this coast, stretches for six miles to the eastward of Cape Palmas. It appears to be fed by a small river, which, except in the rainy season, has not power to break through the sandy barrier that separates it from the sea. The place of this occasional outlet is marked by the depression of the beach ; and on each side of it there is a native village, the inhabitants of which, it is said, sometimes empty the lagoon by an artificial channel, in order to take the fish.

219. The beach to the eastward of the cape is steep, with one or two conspicuous masses of stone, and some under water rocks in the surf, as well as at a greater distance in the offing. Of the latter, one bears S.E. $\frac{1}{4}$ E. from the lighthouse nearly 2 miles, carrying 3 fathoms.* In the same direction, but three-quarters of a mile farther off, there is a 5 fathoms rock. And S.E. $\frac{1}{4}$ S. 4 miles from the lighthouse, and in the stream of 12 fathoms, the patch lies on which H.M.S. Athol struck in *Athol Rock*. 1830 ; its distance from the nearest shore being 2 miles, with Cape Palmas bearing N.W. $\frac{1}{4}$ N., and Growa Point East. The whole interval between those two points is full of rocky heads, but at too great a depth to bring a ship up, except the three above described, as well as a long series of reefs which project nearly two miles to the westward from Growa Point. The sea *Growa Reefs*. breaks violently on these reefs, which are steep-to, and towards which no vessel should approach at night nearer than 15 fathoms. There are two native villages near the point.

220. A mile and a half to the eastward of Growa, Cavally Point forms the southern extremity of this part of Africa, in latitude $4^{\circ} 21' 12''$ N., longitude $7^{\circ} 35' 35''$ W. The point,

* See the Plan of Cape Palmas, No. 1697, and the Chart of the West Coast of Africa, Sheet XI. No. 1362. Scale 1 m = $\frac{1}{4}$ inch.

Half Cavally. which may be distinguished from the adjacent sandy shore by its black rocky appearance, is encompassed by reefs extending half a mile to seaward. A village called Half Cavally stands on the point, and three other villages a little to the eastward. A mile and a half from Cavally Point there is a large rock which rises from a reef more than a quarter of a mile from the beach ; and a mile farther there is another ledge, about half a mile from the shore, with another large dry rock. Sunken reefs lie close along the coast abreast of this ledge, and between them there is a narrow channel with $5\frac{1}{2}$ fathoms. These rocks lie comparatively out of the track of navigation, but between the Point and river of Cavally there is a large and dangerous ledge, the outer point of which rises suddenly from 10 fathoms, and stretches from thence towards the river. From that outer point Cavally Point bears N.W. by W. $\frac{1}{2}$ W. more than 2 miles, and the white house at the mouth of the river E.N.E. about the same distance.

Cavally Ledge. *Cavally River.* Cavally River issues between two low and sandy points, with a bar before it, which is not always passable by boats. On the western point there is a native town, and near it a white house, which belongs to the American Settlement at Cape Palmas. A little without or to seaward of the bar, there are some detached rocks with $4\frac{1}{2}$ fathoms close to the southward.

About 3 miles to the eastward of Cavally River, there is a small rocky islet half a mile off shore, with a long reef extending from it W.S.W. ; and from the point of the reef to the beach, the space is filled with a succession of breakers and ledges of rocks.

Tafou Point. 221. From the above islet to Tafou Point the shore consists of a wavy line of sandy beach, along which a few rocks are dispersed at intervals, along with several villages which convey the idea of a numerous population. The interior appears to be one dense continued forest, but rising occasionally into clumps, either from undulations in the ground or from the character of the trees. Some of these clumps attain the height of nearly 200 feet above the sea.

Tafou. Tafou Point* may be easily distinguished by four tall palms ; it is a little bold cliff with 3 fathoms close to its foot. A small

* See Plan of Tabou River, No. 1697 ; m = 0.75 in.

river, after expanding itself into a long lagoon, issues about 250 yards to the eastward of the point, through a narrow channel, not more than 55 yards in breadth. From Willson Point a bed of sand and rocks, some of which are dry, stretch out to the S.E. and nearly to Tafou Point; and on the bar between it and William Point there are only 3 feet at low water. This shallow channel lies along the eastern shore till a spit of sand which projects from Willson Point and is nearly awash, is rounded, and even then the water scarcely deepens for a mile within the entrance; nevertheless this little river is a convenient place for wooding and watering, being easy of access to a ship's boats, as the bar is generally smooth, and having good anchorage in 7 fathoms within a quarter of a mile of its mouth. At the last of the ebb tide good fresh water may be obtained in any part of the river; but it is more prudent to procure it about half a mile up, abreast of a little detached sand-bank, where the boats may anchor in the middle of the stream and fill their casks alongside.

Water.

To obtain wood it is necessary to secure the consent of the neighbouring chiefs, who style themselves respectively the River King and the Hill King. The former possesses two open towns at the entrance of the river; while the dominion of the latter is confined to a single village, but it stands on a rising ground about half a mile to the eastward, and was well stockaded. They are at first very unreasonable in their demands, but a little patience and a few presents will generally succeed; and then, besides being unmolested while watering, some small cattle, sheep, goats, and fowls, with bananas, sweet potatoes, cassada, pumpkins, and rice may be procured in exchange for old clothes, tobacco, biscuit, and empty wine-bottles, which latter are always in great request. Coloured cloth and most manufactured articles fetch their full value all along this coast, and are equally coveted by both the kings and their subjects; but above all other things, muskets, powder, and spirits are the great objects for which they contend, and with which they are too often supplied by mischievous visitors.

Some dry rocks lie to the eastward of William Point, and also off James Point, as well as some sunken patches, but the best description of them will be found in the Plan. Off the Hill King's village there is likewise a small reef, and all these

rocks have $2\frac{1}{2}$ fathoms close to their southern faces. The most dangerous of them lies a quarter of a mile S. $\frac{1}{2}$ E. from Hill King Point ; it carries but 3 feet water, with 3 fathoms close round it.

Tides. On full and change days of the moon it is high water 4^h 45^m : spring tides rise 4 feet.

Tabou Point. 222. From Tafou Point the coast trends about E. $\frac{1}{2}$ N. to Tabou Point, which is low and foul ; and S. $\frac{1}{2}$ W. from which at three-quarters of a mile distance there is a rock with only $2\frac{1}{2}$ fathoms, but steep-to from 9 fathoms round it. Tabou Point is double, with a village on each of its angles, and close round it to the northward is a barred-up river, open probably during the rains.

Grand Tabou. A mile beyond the point there is a large native village called Grand Tabou, with an insulated reef in front of it, about a quarter of a mile from the shore.

Basha Point. 223. The bight between Tabou and Basha Points, except at the above reef, is clean, with regular soundings, and with the usual sandy beach ; but Basha Point is tipped with rock, and the town upon it stands 50 feet above the sea. A chain of reefs also commences half a mile to the westward of the point, and continues $1\frac{3}{4}$ miles to the north-eastward. They extend more than half a mile off shore, and lie in detached patches, steep-to on the outside, with a boat channel between them and the beach. Basha Point may be known by a large flat-topped tree at the town ; and also by a grove which stands about 340 feet above the sea, on a rising ground N. by E. $\frac{1}{2}$ E. 5 miles distance.

Doo Enoon. 224. Doo Enoon Hill, 15 miles in nearly the same direction, is likewise a conspicuous object. About a mile to the eastward of the point, Grand Basha River makes its exit ; and, like the major part of the rivers on this coast, forms a junction with another stream just at the sea shore. There is a bar before it, and also two reefs a short distance outside of the bar, leaving a narrow boat channel between them.

Hill. *Wappoo.* 224. From thence $3\frac{1}{2}$ miles of a broad and nearly straight beach leads to Wappoo Point, a small rocky cliff on which a native town stands about 60 or 70 feet above the sea ; and quite safe and bold on its southern face. But to the eastward there are some straggling rocks along the shore for the space of a mile, none of which project more than 300 yards. At Wappoo there

is a large tree similar to that at Basha ; and a mile N. $\frac{3}{4}$ W. from the tree there is a grove, the top of which is about 350 feet above the sea.

There is no permanent opening through the beach at Wappo, but a large body of water that accumulates there, sometimes issues just to the westward of the cliff. This water is connected with a long and very narrow lagoon, which lies close behind the beach, and reaches to the River Poor, a distance of 9 miles. The sandy barrier that separates this lagoon from the sea is, as usual, covered with trees, but occasional bare spots show where the swelling waters burst through in the rainy season.

225. Poor Point is on the western side of the river : it is low *Poor Point.* and rocky, and some rocks lie off to the eastward more than a quarter of a mile in front of the entrance, which is very narrow, but not entirely closed. These rocks, many of which are above water, are steep-to, having 4 fathoms close to them to seaward. The main branch of the Poor comes from the northward.

From the River Poor to the rocky Bluff of Kadahboo the distance is 10 miles E.N.E. $\frac{1}{2}$ E. The coast between them consists of a succession of sandy bights with rocky points, and the whole country appears a vast forest, rising gradually into dark wooded hills, one of which, called Bereby Coprice (N. $\frac{3}{4}$ W. $2\frac{1}{2}$ miles from Poor Point), is 300 feet above the sea. The native town of Half *Bereby.* Bereby stands upon the second point from Poor River, and the numerous villages near the shore show it to be thickly peopled. At the third point, 3 miles from Poor River, commences an extensive line of reefs lying parallel to the coast for $4\frac{1}{2}$ miles, and terminating rather more than half a mile to the S.W. of Divile Rock. The average breadth of this chain of reefs is about a mile, and there is a safe passage for boats between it and the shore, with regular soundings from $1\frac{1}{2}$ to $4\frac{1}{2}$ fathoms. This whole chain is steep-to, on the outer side there being 6 fathoms within a few yards of it, and farther out there are no dangers, the soundings being quite regular from 30 fathoms at 5 miles in the offing. *Bereby Reef.*

226. Divile Rock is a large oval mass, rising 46 feet above *Divile Rock.* the sea ; the base is dark, but the numerous sea-fowl of which it is the constant resort have blanched its flat summit. It lies about $2\frac{1}{2}$ miles W.S.W. of Kadahboo Bluff, and two-thirds of a mile from the shore abreast of it. E.N.E. from it, a third of a mile, there is a sunken rock upon which the sea breaks. These

rocks are both steep-to on the south side, having 6 fathoms close to them, and there is a channel of 4 to $5\frac{1}{2}$ fathoms between them and the shore.

Kadahboo Bluff. 227. Kadahboo Bluff is a bold rocky point, in latitude $4^{\circ} 39' 0''$ N., and longitude $6^{\circ} 54' 15''$ W. The S.E. extreme is cleared of trees; and the bare summit, on which stands the native town of Yeh, is 120 feet above the level of the sea. From the Bluff

Yeh Town. the shore makes a sudden turn to the northward, for about a mile, to the mouth of the Nahno River; and on a rising ground in the interval stands Grand Bereby. Abreast of this town

Grand Bereby. and a quarter of a mile off shore there are some rocks called the Goomarah Reef, with a boat channel between them and the beach.

Nahno River. The Nahno River pours out a small volume of water, but its sheltered position enables it to keep down the bar so as to be always open for boats. There are some rocks immediately off its mouth, with 2 fathoms inside of them. There are several hills by which this place may be recognised from the offing:

Acol Hill. two standing together, called the Sisters, 3 miles N.W. of the Bluff; Acol, a sharp-pointed hill N.N.E. 5 miles; and 16

Oval Mountain. miles in the same direction the Oval mountain, 1,315 feet above the sea. When near the shore it is known by the sudden recess of the bay and the peculiar form of the Bluff, as well as

Katum Rock. by Katum Rock, a large white mass which lies a mile and a quarter E.N.E. from the point of Kadahboo.

228. From Grand Bereby there is a long waving line of sandy beach trending about E. by S. 13 miles to Tahou Point, which is rocky. The numerous native settlements along this part of the shore are called generally the Villages of Tahou. The land is thickly wooded and of moderate elevation; the tops of the highest trees near Tahou Point being 290 feet above the sea.

In this extent of coast there are many rocks, large and small, above and under water; the first group occurs $1\frac{1}{2}$ miles to the eastward of the large white rock of Katum; it is more than 2 miles in length, and continues off three-quarters of a mile from the shore. (2) At $5\frac{3}{4}$ miles from the Katum, and $1\frac{1}{2}$ miles from the shore, a large white rock with 9 fathoms round it, to

Brooni Rock. which the natives have given the name of the Brooni, or white man. (3) Some breakers rather more than half a mile W.S.W. from the Brooni, in the stream of 10 fathoms; and (4) abreast of it, near the shore, there is a patch of dry rocks, with a channel

of $3\frac{1}{2}$ fathoms between them and the beach. (5) E. $\frac{1}{2}$ S. 2 miles from the Brooni, a rocky ledge with 5 fathoms, in the stream of 10 fathoms. (6) Halfway between that ledge and Tahou Point, and about half a mile from the beach, a sunken rock inside of which there is a channel of 5 fathoms. (7) A mile farther to the eastward, another patch, nearly in the meridian of a high grove of trees. And (8), just to the westward of Tahou Point a series of rocks commences which nearly surrounds the point, and in one place stretches off nearly a mile. Some of them are large masses of dark stone above water, and a narrow channel may be picked out through them, with $3\frac{1}{2}$ fathoms water. All these rocks are steep-to on the outside.

229. Tahou Point is steep-to, with 4 fathoms close off it ; and here the shore changes its character, broken and irregular hills coming down to the beach. The River San Pedro, which is 3 miles to the eastward of the point, appears to be a large sheet of water with a little islet in its centre, but during the survey it was entirely barred up by a broad bank of sand. San Pedro Point intervenes between that river and Highland River,

Tahou Point.

San Pedro River.

which is a fine open stream issuing from behind Highland Point, and into which the boats freely entered by a channel carrying 6 feet at low water.* From Tahou Point to this place the shore is fringed by a succession of rocks and breakers, called the shoals of San Pedro : they are all steep-to on the outer face ; they do not project more than half a mile, and they leave a safe 3 fathoms channel along the beach for boats.

Highland River.

San Pedro Shoals.

230. Highland Point, which by its shelter leaves the bar of the river generally passable, is a rocky peninsula, quite bold and safe in its approach ; and a hill of the same character rises immediately from the isthmus, to the height of 350 feet. Another small river appears to the westward of the point.

Highland Point.

231. Drewin Point lies 11 miles to the eastward of the Highland River, and in the interval there are but few inflections in the coast, and but two dangers. The first, a short reef about a mile to the westward of Ensou Point ; and secondly, the Temple Rocks, $3\frac{1}{2}$ miles to the eastward of it. The latter lie about a quarter of a mile in front of a village, with a clear 3 fathoms channel along shore. The approach from the offing is everywhere safe, with regular soundings.

Drewin Point.

Ensou Point.

Temple Rocks.

* Lieut. Fleuriot de Langle, in 1844, made a plan of this river, and found four rocks off the point.—*Manuel de la Navigation, &c.,* vol. 2, p. 285.

Highland of Drewin. The land here gradually attains a little higher elevation, and is more diversified with hill and dale. The hill called East-tree is 400 feet above the sea ; Temple Hill, 550 feet ; and the whole range, which extends 27 miles along the coast to St. Andrew's River, has received the name of the Highland of Drewin.

Little Drewin. 232. On the north side of Drewin Point there is a small bay with the two villages of Little Drewin at the base of the hills.

Abrapa Cliffs. The Kroomen call the inhabitants "The Saucy Drewins," from their rough and noisy habits. From this bay a succession of small rocky points, with slightly embayed sandy beaches, extend in a straight line E. $\frac{1}{2}$ S. 6 miles to the white cliff of Abrapa, off which there are a few rocks. In the interval there are also three small streams, but all barred across their mouths.

Enframa Point. From Abrapa to Enframa Point, a distance of 7 miles, the coast continues of a similar character ; several patches of rocks show themselves by breakers, but they are generally very near the shore, and all have 6 fathoms close-to. The most prominent of them lies 3 miles to the eastward of Abrapa, and nearly half a mile off shore, with a 4 fathoms channel inside. There is a conspicuous white cliff with some reefs at its base, nearly half way between Abrapa and Enframa ; off which latter point there is a reef of about a quarter of a mile in length.

Cussi Point. Cassi Point is 4 miles to the eastward of Enframa : in the bay between them there is a small river barred up, and to the eastward of the river a large village called Drewin.

Grand Drewin. From Cassi Point to Swarton Corner (7 miles E. $\frac{1}{2}$ N.) the coast still retains its character of sandy bays and rocky points, with frequent small reefs, and broken elevated land intersected by valleys. The town of Grand Drewin, or Drewin Ehbiensa (Drewin the third), lies $1\frac{1}{2}$ miles to the eastward of Cassi Point ; and off the town there is a detached rock, about half a mile from the shore. Half-way between this rock and Swarton there is a reef with two patches outside of it, which break a mile from the shore ; but from thence to Swarton Corner the coast is clear of all danger.

Swarton Corner. 233. Swarton Corner is a bold headland, 210 feet above the sea, and forming the eastern extremity of the high land of Drewin ; some fragments of rocks are scattered round its base, but there are 5 fathoms close up to them. It is in latitude $4^{\circ} 57' 12''$ N. and longitude $6^{\circ} 3' 40''$ W.

King George Town stands on the shore about half a mile round Swarton Corner ; and at the head of the little sandy bay formed by that headland, the rivers Sassandra* and Tabeta pour their united waters into the sea. The two long sandy spits which form the opening are probably submerged during the rainy season ; and then, a large rock 8 feet high, which stands on the end of the western spit, will appear like an islet in the middle of the entrance. On the bar which stretched across this opening the surf was so heavy that no boats could enter, and therefore the depth of the spacious sheet of water inside is imperfectly known, but a few soundings obtained in a canoe showed that in parts of it there were from 5 to 7 fathoms. Besides the rivers above mentioned there are two smaller streams which fall into it, the Beyh and the Gapeh ; and opposite the mouth of the latter there is a little island which the natives call Nuckbah.

*King George Town.**Sassandra and Tabeta Rivers.**Beyh and Gapeh River.*

From Swarton Corner N.W. by N. there is some elevated land, at 5 or 6 miles distance ; and there is a range of still higher ground, called the Hills of Sassandra, the extremes of which bear from N.N.W. $\frac{3}{4}$ W. to N. by E., and distant 15 miles. The highest part of the range is 930 feet above the sea.

Sassandra Hills.

The bank of soundings lies off 18 miles from Swarton Corner.

234. Eastward of Sassandra River there is a flat coast and sandy beach for $3\frac{1}{2}$ miles to Price Point, at which place it again rises into hills, those immediately about the point attaining an elevation of 275 feet. This sandy beach is steep-to and quite clear of rocks ; but Price Point and Trepow Point, $1\frac{1}{4}$ miles farther, are both rocky, and have a few rocks scattered round their bases : there are two small bays between these points, and at the foot of the hills near the shore there are numerous villages. The soundings decrease more slowly in approaching the shore here than to the westward of Sassandra, and the bottom is everywhere mud.

*Price Point.**Trepow Point.*

Mortality Point, 2 miles to the eastward of Trepow, projects but little from the line of coast, but is bold and without any detached rocks. The vicinity is populous.

Mortality Point.

* Sassandra appears to be a corruption by the natives of St. Andrew, the name given to this river by the old European mariners ; or perhaps the latter was adopted by them from its similarity to the native name.

Mount Langdon.

235. From Mortality Point to Mount Langdon, a distance of $5\frac{1}{2}$ miles, the ground near the shore continues high and broken by ravines, through which run immense streams. A few rocks lie near the shore in this space ; the bank of soundings is rather flat, there being 3 fathoms close in, and only 7 fathoms at $1\frac{1}{4}$ miles in the offing. Mount Langdon is 355 feet above the sea : a short reef extends about a quarter of a mile out from its base, and on either side there is a barred-up river. The beach is sandy, with occasional bare patches of rock.

Yawodah Cliffs.

236. Three miles to the eastward of Mount Langdon, at Yawodah, a series of red cliffs begins, and extends to the River Fresco, nearly 15 miles. From Yawodah to the red cliffs of Kootrou a straight coast of 4 miles includes several other cliffs of similar appearance ; and the land continues high and much broken, and to all appearance but thinly peopled. The beach is sandy and entirely clear of rocks, and at Kootrou the cliffs are about 150 feet above the sea, while the tops of the trees on the adjacent hills rise to 270 feet.

Mount Bedford.

237. The coast continues nearly straight for 9 miles E. by S., that is, from Kootrou to Mount Bedford, which stands on the top of the largest and most remarkable of the red cliffs, at an elevation of 240 feet above the sea ; and the shore is generally a sandy beach, though under some of the cliffs the beach disappears and large stones supply its place, apparently caused by the falling of the cliffs. Throughout this space the shore is fronted by rocks, which extend out about a quarter of a mile ; but a vessel may stand into 5 fathoms without danger, and in that depth will generally be about half a mile from the beach.

Fresco River.

The red cliff at Mount Bedford is $1\frac{1}{2}$ miles in length, and its eastern extremity descends gradually to the Fresco. The mouths of this river are barred-up in the dry season, but the natives stated that they would be open in May. The delta spreads a mile and a half from west to east ; and is divided into several wooded islets. On the sandy point to the eastward of the river stands a large native town named Fresco ; and the main body of water is evidently discharged at that point. A range of high land, which may be called the hills of Fresco, may be seen 5 or 6 miles N.N.E. of the town of Fresco.

Fresco Hills.

238. Between the Fresco and the river of Grand Lahou, for a distance of 35 miles E.S.E. $\frac{3}{4}$ E., the coast is low, thickly

wooded, and not thickly inhabited. The beach is everywhere a clean light-brown sand, void of rocks; it is nearly straight and constantly lashed by a high surf. Within this beach there is a narrow slip of stagnant water like a canal, which lies parallel to the coast throughout the whole distance between the two rivers; and in a few places appears to receive some small streams from the interior. Native villages are built at intervals upon the narrow belt of land between the backwater and the ocean, and are generally surrounded by groves of cocoanut trees. The soundings along this whole extent of coast are regular; there being 3 fathoms close outside the surf, deepening gradually to 10 fathoms at a mile from the beach. Near the coast the bottom is generally sandy, changing by slow gradations to mud. Picaninny Lahou is 14 miles to the eastward *Picaninny Lahou.* of Fresco. Some rising grounds behind it are called the Cacrabah, or small hills.

Half Lahou is 15 miles east of Picaninny; and Salt Town *Half Lahou.* 2 miles farther, or within 4 miles of Grand Lahou River.

The town of Grand Lahou* is upwards of a mile in length, *Grand Lahou.* and stands on the western point of the entrance of the river. This entrance is very narrow, with a dangerous bar in front, on which the sea was breaking with so much violence that it was not passable by the ship's boats, and even the native canoes were frequently upset in their efforts to bring off their pigs and cocoa-nuts. Both points of the river are extremely low and sandy; the western one is covered with cocoa-nut trees, under which the town is built; on the eastern point there is another smaller town, but no trees. The two towns contain a very numerous population.

Mount Lahou, a short range of hills 350 feet high, stands *Mount Lahou.* about 6 miles N.N.E. of the river's entrance; and about 5 miles eastward of Mount Lahou the Long Hills commence; they lie parallel to the coast for 11 miles, and are about the same height as Mount Lahou. *The Long Hills.*

239. From Grand Lahou a high sandy beach continues in a straight line E.S.E. $\frac{3}{4}$ E. 60 miles to Picaninny Bassam; and the narrow lagoon or backwater, which has been already described, accompanies it the whole distance. No rivers were *Picaninny Bassam.*

* See Chart of the West Coast of Africa, Sheet XII., Grand Lahou to Cape Three Points, by Capt. Vidal and Lieut. G. A. Bedford, in 1836-8. Scale 8 m. to an inch.

observed to flow into the lagoon in this interval ; the land is everywhere low, without any remarkable objects ; and the ridge of sand between it and the sea, being thickly wooded, presents the same uniform appearance throughout, varied only by the numerous villages, to each of which there is attached a grove of cocoa-nuts. The beach is everywhere steep-to ; $3\frac{1}{2}$ and 4 fathoms being found as close to the surf as it is prudent to venture. Off Grand Laiou there are 10 fathoms a mile from the shore ; off Jack-Jack, the same depth at three-quarters of a mile ; and at Picaninny Bassam there are 17 fathoms close to the beach. The tops of the trees upon the foreground, or ridge, are from 120 to 140 feet above the sea, but near Jack-Jack they rise to 190 feet.

240. Near Picaninny Bassam, in the longitude of $3^{\circ} 57' W.$, we come to an extraordinary feature of this coast, called *The Bottomless Pit*. The great bank of soundings which surrounds the continent of Africa, and which extends to various breadths, and therefore with various degrees of declivity, but even when steepest preserving a regular descent, here falls in close to the coast, and divides itself into two parts by a narrow ravine or gully of very great depth. East and west of this place the outer edge of the bank is 14 or 15 miles from the land, but here it turns in gradually towards the coast in a funnel shape : at 8 miles off the shore, the two lines of 100 fathoms are 3 miles apart, with no bottom between them ; at 3 miles they approach each other within less than a mile, preserving 200 fathoms depth in the channel. At a mile from the shore the channel is scarcely a quarter of a mile wide ; at a third of a mile there are still 100 fathoms ; and finally, at the head of this singular submarine valley, there are 20 fathoms water at the very edge of the beach. The bottom is generally a soft blueish mud, but at 190 and at 220 fathoms some coral rock was brought up by the lead.

The land continues very low for some distance in-shore, and when viewed from the offing, in connexion with the two ranges of hills, to the eastward and westward, the mind can scarcely resist the impression that there has been a corresponding subsidence there.

There were no eddies nor ebullition in the sea, nothing to countenance the supposition that a subterranean river here found an outlet ; and while at anchor in 18 fathoms, three-quarters of

a mile off the eastern village, there was no tide or current, nor any discolouration of the water.

The ship's boats could not land, and the natives were several times upset in bringing off fowls, pigs, kids, yams, plantains, and limes.

241. From Picaninny Bassam the coast trends S.E. by E. 15 miles to the mouth of the River Costa, on the eastern side of *River Costa*, which are the several villages of Grand Bassam.* The entrance to the river is between two low sandy points, very narrow, and with a heavy surf upon the bar. The river is connected on both sides with the stagnant lagoons which occupy so large a portion of this coast ; and its volume of turbid water must be considerable, as it discolours the sea for 4 miles from the shore.

242. † The River Assini is 27 miles from the Costa, the intermediate beach is nearly straight, with several villages. The coast is entirely free from rocks, and the soundings are regular up to 5 fathoms close to the surf, which generally runs so high as to render landing impracticable. Near the shore the bottom is generally fine dark sand, but outside of 10 fathoms a dark olive mud.

Assini River.

The Sueiro da Costa Hills, which lie to the westward of the Assini, and 6 or 7 miles inland, rise towards the north-eastward, where Church Mount is 540 feet above the sea. The Assini does not directly communicate with the sea, but after falling into the lagoon, runs 8 miles to the westward before it bursts through the bank and escapes over a bar, upon which the sea usually breaks with such violence as to be impassable to any boats. The sandy ridge, which is about 250 yards wide, between the lagoon and the sea is no longer thickly wooded ; it carries only a few shrubs with occasional clumps of trees, as at Droco Grove, just opposite the main body of the river; another, 2 miles to the westward, which has the appearance of an island; and between them six palm-trees, without any vegetation near them on either side for more than a quarter of a mile.

Sueiro da Costa Hills.

243. From the river Assini a sandy beach runs S.E. by E. $\frac{1}{4}$ E. 30 miles, and nearly in a straight line to the River Albaní ; and there the narrow parallel lagoon, which we have found

Albaní River.

* A French settlement was established at Grand Bassam in 1843. Fort Nemours is situated on the right bank of the river at its mouth.

† Assini, formerly a French settlement, was re-occupied in 1843. A plan of it was made by M. de Langle.—*Manuel de la Navigation, &c.*, vol. 2, p. 307.

accompanying this shore for so great a distance, ceases. Between these two last rivers the lagoon appears to have forced through the sandy beach four communications with the sea, but without being connected with any corresponding streams from the interior.

Assini Hills. There is an undulating range of high land along this coast, which may be divided into the Assini, the Albaní, and the Apollonia Hills. The western extremity of the former is called by the seamen the "Grotto," and stands about 470 feet above the sea.

Albani Hills. The western end of the Albaní Hills is 340 feet high, but they rise a little towards the eastern end of the ridge, where it overhangs the river. To the eastward of the river come the four Hills or Hummocks of Apollonia, or, as they are usually called by the seamen, Cape Apollonia ; for, lying at an angle of inclination with the coast and terminating upon the beach, with an extensive level plain to the eastward, they have from a distance all the appearance of a long projecting point. The highest of these hummocks is about 325 feet above the sea.

Apollonia Hummocks. Between the Assini River and Apollonia the whole country is covered with a dense forest, and apparently but thinly peopled to the westward of Albaní, but from that town to Apollonia the coast is studded with villages.

244. From the Hummocks of Apollonia to Ancobra River, a distance of 23 miles, the land presents an extensive plain covered with forest. A high sandy beach nearly straight forms the coast-line, and a few yards from the shore, in the midst of palm-groves, are many villages. The soundings are everywhere regular, no rocks or shoals, and the quality of the bottom is fine dark sand near the shore, with dark olive-coloured mud outside in the offing.

Apollonia Fort. Fort Apollonia, the first European fort with which we meet after leaving Sierra Leone, stands on the beach about 4 miles from the Hummocks ; it was erected by the English, but having been some years abandoned, it is now rapidly going to decay. It was originally one of those strong trading-houses where goods were deposited, and where the traders resided, but which, from the attacks of rival traders, native robbers, and sea pirates, were gradually converted into military defences.

A straight and safe coast of 12 miles leads from Fort Apol- *Abmousso*
lonia to the River Abmousso, the entrance of which is very *River.*
narrow, with a high surf breaking across it.

Seven miles more of this straight sandy beach terminates it; the Ancobra River divides it from the knot of hills and rough *Ancobra River.* ground which form the Cape Three Points; and the whole aspect of the coast is at once changed. The river winds round the foot of the hills from a great distance inland, and pours out a considerable volume of water through an opening of 300 yards wide, but so full of large stones and rocks that the canoes cannot venture out except in the most tranquil state of the surf.

245. Acrumassi Point, which forms the east side of the entrance to the Ancobra, throws out a ridge of black rocks and loose stones about a quarter of a mile; at half a mile S.W. $\frac{3}{4}$ W. from the point there is a detached ledge of rocks, some above and some under water, with a channel of $3\frac{1}{2}$ fathoms between them and the black rocks; and W. by N., 1 mile from the same point, there is a solitary breaker.

From Acrumassi Point to Pepré Point the distance is nearly 3 miles S. by E.; and the coast falls back into what is usually called Axim Bay,* the well-known fort of that name standing *Axim.* about a mile to the northward of Pepré Point. This fort was originally built by the Portuguese, and by them called after St. Anthony, but it long since fell into the hands of the Dutch: it stands on a low rocky point, with a sandy bay and native town on either side, and some rocky ledges in front. The top of the highest building is 75 feet above the sea; and the hills about two-thirds of a mile to the eastward are 300 feet high. The landing here is safe, being protected from the heavy swell by the rocky ledges and islets which lie in its vicinity.

The first of these is Saiaba Island, which lies a mile N.W. by N. *Saiaba Island.* from the fort, and half a mile off Ronda Point, with which it is partly connected by a chain of rocks, but between these rocks there are deep passages for boats. Saiaba is 45 feet in height, and a large flat rock stretches out from its foot towards the south-west. Secondly, there is a ledge which projects from Quebrada Point to the S.W. about a cable's length; and two large patches of rock which lie immediately in front of the fort

* Axem of the Portuguese. See Lopes de Lima, *Sobre as Possessões Portuguezas, &c.* p. vii. See Admiralty Plan of Axim Bay, by Capt. Vidal, in 1837. Scale, 2 inches to a mile.

afford protection and shelter to the adjacent beach. And thirdly, Giba and Bobowassi Islands, between which and the shore, as far as Pepré Point, the space is nearly filled with a confused assemblage of rocks and ledges. These islets and ledges are all steep-to on the sea side, having 4 fathoms close to them.*

The above-mentioned change in the character of the coast makes none in the regularity of the soundings, the bank being here about 7 leagues in breadth, of fine sand, and the depths diminishing gradually from 100 to 3 or 4 fathoms at the back of the surf.

Peninsula.

246. From Pepré Point to a point called the Peninsula the distance is 6 miles ; the interval being divided into several bays by rocky points, but all safe within a quarter of a mile of them. The ground rises to a small hill called Mount Terceira, 300 feet high. The Peninsula appears like a low island when seen from the westward.

Fort Brandenburg.

247. To the eastward of the Peninsula, a long straight beach is interrupted by a projecting rock, on which stands the ruin of Fort Brandenburg, at the height of 115 feet ; and which, being overgrown with dark trees and shrubs, is the more conspicuous from its contrast with the white sandy shore on either side. To the westward there is a small river, which is said to flow from amongst the hills to the northward, and which, having one outlet half a mile to the westward of the fort, passes on behind it to a second outlet at Secan Point, a low rocky ridge near the eastern end of the beach. There the land rises rapidly to the highest hills in the vicinity of Cape Three Points, which has been named Mount Heathfield. Viewed from the westward it forms a bold bluff, and is elevated 445 feet above the sea.

Secan Point.

Mount Heathfield.

Frederick Point.

West Point.

The shore then turns to the southward towards Frederick and West Points, which latter is a rocky bluff with some rocks at its base, and forms the southern extremity of Brandenburg Bay, as well as the western extremity ; this projecting mass of land is called Cape Three Points.

* In March 1850, the Dutch schooner, *Governor*, struck upon a dangerous rock in Axim Bay, having only 12 feet water over it, a pinnacle with 5 fathoms around it. It lies N.W. from the S.W. point of Bobowassi $5\frac{1}{2}$ cables, and S.S.W. $7\frac{1}{2}$ cables from the middle of Sanaba Island. To avoid it bring Axim Fort to bear to the northward of E. by N., when you may anchor in safety in 6 fathoms.—*Naut. Mag.* 1851, p. 377.

CHAPTER VII.

FROM CAPE THREE POINTS TO CAPE ST. PAUL.

248. Cape Three Points is a mile and a half S. E. by S. from West Point, and projects from the main in a S. W. direction about half a mile, with a large rock 100 yards off its pitch, called the Boidan : this rock, which is remarkable whether seen from the westward or eastward of the cape, is steep-to, having 5 fathoms close to the surf, which breaks around it, and is 20 feet high. It stands in $4^{\circ} 44' 40''$ N. and $2^{\circ} 5' 45''$ W.*

249. Nearly a mile off Cape Three Points, between the bearings of W. by S. and S.W. by S., there are some dangerous patches of rock called the Cape Shoals. The least water found on them was $2\frac{1}{2}$ and 3 fathoms, but the soundings all round were very irregular, and the bottom everywhere rock ; the shallow parts appearing to be large detached masses with deep intervening fissures. The lead is a bad guide to clear them, as to the westward there is little more than a cable's length from 16 to 3 fathoms ; and to the southward, from 14 to that depth. These shoals are the more dangerous as the sea does not always break, and even when heavy rollers break in succession, there is occasionally a considerable interval of time before another batch of sufficient volume comes up. West Point and Frederick Point, in one N. $\frac{3}{4}$ E., just clear the western edge of the shoal, and therefore the former should be kept well open of the latter ; and in the night no ship should approach them on the western or southern sides nearer than 19 fathoms.

Boidan Rock in one with the eastern extremity of River Point on the eastern side of the cape, leads over the western part of the shoal ; and so does East Point in one with the large rocks off Achowa Point, a headland 7 miles to the eastward of Cape Three Points.

* See Plan of Cape Three Points,—scale, 2 inches to a mile ; and Chart of the West Coast of Africa, Sheet XIII., by Capt. Vidal, in 1836-8 ; scale, $\frac{1}{4}$ inch to a mile.

There is a channel of half a mile in breadth between the Cape and the Cape Shoals, but the ground is very uneven, with some rocky heads carrying only 4 and $4\frac{1}{2}$ fathoms. Few vessels can have any pretext for using this channel; but when necessary, perhaps the safest course to adopt will be to keep close to the Boidan Rock, as 5 fathoms will be found there, and as the shoal water seems to lie in the form of a ridge from them to the outer shoals.

Tides. 250. It is high water at full and change here at 4 o'clock, and spring tides rise 4 feet.

Half a mile to the N.E. of the Cape there is a small rivulet with a rock in the middle of the entrance, and a rocky hillock on its eastern side called River Point; and half a mile farther eastward there is another outlet to the same stream. Two rocky flats extend here from the beach, on one of which stands a tall stone like a ninepin.

Anama Point. Anama Point is $1\frac{1}{2}$ miles from the Cape; it is quite safe, for most of the few rocks which lie round it are visible, and have 7 fathoms water close to them.

East Point. 251. A rocky bay of nearly a mile in extent, with a couple of small islets, then leads to the East Point of Cape Three Points, from which it bears E.S.E. $\frac{1}{3}$ E., East Point forming a high salient headland, is steep-to, having 4 or 5 fathoms close-to on all sides. A large tree on the elevated ground above East Point has a remarkable appearance when viewed at a little distance on either side, and distinguishes it perfectly from any of the other points. The whole front of Cape Three Points, that is to say, the space from West Point to East Point, is a series of hills with abrupt sides and rocky points, but without dangers that are not visible at all times, the Cape Shoals excepted. In the offing the bottom is generally soft blue mud, though with some sandy and rocky spots.

Aquidah Fort. 252. From East Point the coast continues of the same character for three quarters of a mile; the higher lands then recede from it, leaving an undulating country of less elevation, and the shore forming a sandy bay as far as Stephen's Point, a rocky knoll at the western side of Aquidah Cove. The eastern side of this cove is a small peninsula crowned by the ruins of Aquidah Fort, belonging to the Dutch, but no longer occupied. The building is in ruins, though the ducal crown over the doorway

still remains to mark its connexion with the house of Brandenburg.

Aquidah Cove is divided into two little sandy bays, the *Aquidah Cove*. western one full of rocks, but the other affording tolerably good landing on the beach at high water, close up to a village which is built under a grove of cocoa-nut trees. In the rainy season there is a small stream called the *Alligator*, with its outlet close to the point which separates the bays.

The entrance of the cove is not more than 300 yards wide, with $3\frac{1}{2}$ fathoms mid-channel, on a sandy bottom, but shoaling rapidly to the beach. From each of the outer points rocks run out to the S.W. about 300 yards.

253. From Aquidah a sandy beach of 3 miles in length, about E.S.E. $\frac{1}{2}$ E., terminates at Achowa, a broad point consisting of *Achowa Point*. several rocky projections. Some large rocks lie above water at its base, which may be distinctly seen from Cape Three Points ; and off each of its angles there is a short reef. On the high ground above its western angle there is a grove of trees, the tops of which are 220 feet above the sea, and which show well in approaching the point, particularly from the westward.

254. The soundings in the space which has just been described, between East and Achowa Points, are very irregular as far out as 13 fathoms, within which depth strangers would do well not to approach. That space contains also some rocks near the shore which are to be seen above water, with channels of 4 fathoms inside of them ; while others lie farther out, which carry but 3 feet water, and give little or no warning by the lead. For instance, Aquidah Rock, which lies upwards of a *Aquidah Rock*. mile from the fort, on a S. $\frac{1}{2}$ E. bearing, and on which there is but half a fathom, has 7 fathoms within half a ship's length of it. Again, East Rock, two-thirds of a mile S.W. $\frac{1}{4}$ S. from the *East Rock*. fort, is similarly circumstanced ; and others which need not be particularised, as they are shown in detail in the plan of Cape Three Points.

The village of Achowa stands in a small sandy bay half a mile to the N.E. of the point, and from thence a rocky indented coast continues to Dix Cove.

255. This Cove* is nearly 400 yards wide, and about the same *Dix Cove*. length, but full of rocks ; they leave, however, sufficient room

* See Admiralty Plan of Dix Cove by Capt. Vidal. No. 1,713 ; scale, 6 inches = 1 m.

in some places to moor boats or very small vessels. A conical heap of rocks, forming a little islet, lies to the W.S.W. of the fort, and a reef of rocks stretches out from it 230 yards to the S.S.E., forming a narrow channel on each side of it. Ahanta Point, on the S.W. side, is surrounded by a belt of rocks which occupies half the cove ; and from Swanzzy Point,* on the eastern side, a similar belt reaches to Hood Point, about a quarter of a mile. On it, and 100 yards to the southward of the point, there is a black rock called by the natives Koombriní, or the white-man's-death-rock, in allusion to an accident which happened there. There are two boat-channels in the cove : one between Koombriní and the islet reef, in which at low water there are only 3 feet abreast of the islet ; and the other between it and Ahanta Point, with 6 feet ; they are both very narrow, but the eastern one is generally preferred, though passing close to the Koombriní Rock. At low water and with fresh southerly breezes, the sea breaks entirely across the cove, but it seldom happens that the natives cannot get off to a vessel in their canoes ; and in fine weather the ships' boats can generally land and find shelter in the cove, the bottom being sandy with a depth of 3 or 4 feet among the rocks.

*Dix Cove
Town and
Fort.*

The town is on the north side of the cove, and extends from the fort to a piece of water, which is stagnant except during a portion of the rainy season, when it is always tenanted by alligators. The fort, which is British, is of a square form, standing on ground about 30 feet above the sea, and its battlements about 60. It has a large tank for its own use, but vessels of war may generally obtain water on application to the commandant. Very long hoses are required to lead the water from the fort to a boat at anchor in the small bight at its base. Although the country is covered with forest, the natives object to its being cut anywhere near the town, so that Dix Cove is not a good place for wooding. Some refreshments may however be procured here for money or barter, but not in sufficient quantity for a vessel of war of any magnitude.

At a mile in-shore from the fort the land rises to 250 feet, and at 6 miles to the northward Mount Swanzzy is 390 feet above the sea.

256. About a mile eastward of Dix Cove is a small low rocky

* So named after the Governor of Dix Cove, Mr. Frank Swanzzy.

islet called Abokori, some parts of which are covered with coarse grass. The channel between this islet and the coast is half a mile wide, but near the middle there is a rocky patch with only $2\frac{3}{4}$ fathoms, but with a narrow passage on either side of 3 or 4 fathoms in depth. A few rocks surround the islet, but not extending farther than 130 yards. It affords no shelter for any vessels. *Abokori Islet.*

In the small sandy bay opposite Abokori stands the little village of Bushau, close to the beach; and the bay terminates $1\frac{1}{2}$ miles farther eastward, at Bootry Point, which is bold and rocky. N.N.E. of this point there is a rivulet, on the western side of which stands the small Dutch fort of Bootry or Bartenstein close to the beach, and still occupied as a trading station. *Bushau.* *Bootry Fort.*
Bartenstein Hill, covered with high trees, and bearing about N. from the fort, rises to the height of 440 feet.

A mile and a half to the eastward of Bootry a sandy angle of the shore terminates in Adoblo Rock, a large black mass shaped like a haystack ; and there the character of the coast changes from being almost steep-to to reefs and irregular soundings with projecting rocky patches. That rock is surrounded for a quarter of a mile by one of these reefs ; and $1\frac{1}{4}$ miles farther to the eastward another reef reaches out more than a mile into the stream of 10 fathoms ; but through all these reefs there are intricate channels for boats. *Adoblo Rock.*
Character of the Coast changes.

257. About $3\frac{1}{2}$ miles beyond Adoblo stands the town of Pompendi, on a projecting point, which consists of two stony hillocks with a sandy bay between them, and several outlying rocks on which the sea at times breaks heavily. Above the town there is a grove of large trees, which serve to distinguish the place. With these trees bearing N.E. by N. and somewhat more than a mile from the shore there is a small 3 fathoms reef lying in the stream of 8 fathoms. From the pitch of another reef which stretches out 3 quarters of a mile from Pompendi Point, into the stream of 6 fathoms, that grove bears N. $\frac{2}{3}$ W. And a patch of foul ground extends to the eastward of the point for nearly a mile. *Pompendi Reefs.*

258. A mile and a half E.N.E. of Pompendi is the village and low rocky point of Adjuah, and thence a wavy line of white beach extends four miles to the low sandy point of Tacorady. In this space there are two foul patches with $2\frac{1}{2}$ and 3 fathoms, bearing S. by E. from Adjuah, the outer one three

*Tacorady
Reef.*

quarters of a mile off shore, and a little farther to the eastward a broad belt of reefs springs out from the beach, and continues all the way to Tacorady Point—its average distance from the shore being more than half a mile. On reaching that point it turns suddenly in towards the shore, in a N.N.E. line, from whence it again suddenly branches off to the eastward about two thirds of a mile. Another reef, but detached from those, lies still farther out : its shape is circular, its diameter a third of a mile, and its centre bears S.E. by E. from Tacorady Point. Several of its rocks show above water, and though it will be safer for vessels not to approach it within 10 fathoms, yet the lead will lead into 8. Five fathoms will be found at the edge of the surf, being a long mile from the point. In navigating from Dix Cove to Tacorady Point vessels should not come nearer to the shore than 11 fathoms, unless desirous of trading.

Tacorady Bay. 259. From Tacorady Point * to Secondee Point it is $4\frac{1}{4}$ miles N.E. by E. $\frac{1}{4}$ E. The coast falls back suddenly to the northward and forms Tacorady Bay, which is composed of several small

Appoassi.

bights, and all divided by rocky points. The ruins of a fort stand on the south side of the third of these bights, upon a bold point, about 80 feet above the sea, and nearly N.N.E. a short mile from Tacorady Point : it is now a complete ruin, and so overgrown with shrubs and trees that it cannot be easily distinguished, yet Tacorady Fort was once a well-known Dutch settlement. There is a grove with some tall trees a little to the northward of the fort, which are very conspicuous ; and at the foot of the fort there is a village, and another at Appoassi.† At both of these places boats may land with facility under the protection of the adjacent reefs. From Appoassi, with the exception of one spot close to the shore, the beach is clean as far as Secondee Point ; and a vessel may beat up in this bay when working to the westward by common attention to the lead : the bottom is sand and mud, but rocky near the reefs of Tacorady Point. The rollers, which to the westward of that point generally break in upwards of 2 fathoms, are here comparatively feeble.

* See Plan of Tacorady Bay. No. 1713.

† In 1837 the narrow pass between the above-mentioned grove and the ruined fort was the scene of an ambuscade into which the Governor of a neighbouring Dutch settlement was betrayed by the natives, and perished with twenty of his followers.

260. Secondee Point is a bold rocky cliff 50 feet above the sea, surmounted by Fort Orange, belonging to the Dutch. The fort is a square of about 180 feet in the sides, with bastions at the angles. It had been abandoned for some years and was fast going to ruin, but in consequence of a misunderstanding between the Dutch and the people of Ahanta it has been again occupied and repaired. The English also had formerly a fort at this place, about 250 yards to the northward of the Dutch fort, but it was blown up by the French in the war of 1780, and nothing now remains of it but a heap of ruins. Yet there is something pleasing in the fact, and honourable to the Dutch, that our flag is still hoisted on the ruin whenever an English vessel passes in sight.

Secondee is said to be the eastern extremity of the Ahanta country ; the soil in the vicinity is prolific, and the population industrious. The yams are supposed to be the finest on the Gold Coast ; and the native fishermen cure much fish, with which they traffic in the interior.

A flat rock extends a short distance under water from the Point of Secondee to the E.N.E., and there is a ledge on which the sea breaks from 200 to 300 yards N.N.E. of the point ; but there are 2 fathoms inside of it, and it produces a tranquil landing on the beach at the village. In every other direction a vessel may almost lie alongside the point, at which there are 5 fathoms, but the soundings are very irregular in approaching it : the bottom is sand and mud.

261. Abboaddi is the next salient point to Secondee, and bears from it E. $\frac{3}{4}$ N. $4\frac{1}{2}$ miles ; the coast between them being a bay about a mile in depth, and containing within it several sandy beaches and abrupt rocky points, off which there are generally a few rocks. Within its extremes the depths are from 4 to $5\frac{1}{2}$ fathoms, decreasing, regularly, and no danger anywhere at a quarter of a mile from the beach. The surrounding shores have a broken appearance, though of a tolerably uniform height, when viewed 4 or 5 miles off, and without any remarkable features.

At Soochoo Point there is a small reef parallel to the coast, of half a mile in length, with a boat channel within it. Off the mouth of the Anamquon River (which is barred up in the dry season) there are a few straggling rocks. Abboaddi is a double point of low rocks, from which a narrow reef runs out

half a mile E.S.E. $\frac{1}{4}$ E., and shows several of its heads above water, one of which has a white top, and stands 300 yards from the point. There is a village at the foot of the hillock which rises from Abboaddi Point, and the landing to the eastward of it is good, thanks to the above-mentioned reef.

262. Three miles S. by W. $\frac{3}{4}$ W. of Abboaddi Point in the stream of $11\frac{1}{2}$ fathoms, there is a rocky patch of a mile in length, called Roani Bank ; the least depth on it is 7 fathoms, and it is said to be a favourite fishing-ground.

Roani Fishing Bank.

Three quarters of a mile E.N.E. of Abboaddi, across a little sandy bay, stand the Bassaboo Rocks, and from them a reef projects nearly half a mile E.S.E. Half a mile farther to the northward there is another foul point with a similar reef ; and from thence to Chama there is a succession of reefs with $3\frac{1}{2}$ fathoms close to them. They lie within a third of a mile from the shore ; but there is a single rock, which generally breaks, and which bears S.S.E. $\frac{1}{2}$ E. a long mile from the fort of Chama.

Chama Fort.

263. The Fort of Chama* (pronounced by the natives Eshama) stands upon a rising ground about 300 yards from the beach, behind the native town, which it overlooks. It appears to be a solidly built square, with bastions at the angles, and surrounded by a wall. The truck of the flag-staff is 74 feet above the sea. It was originally built by the Portuguese, and called by them St. Sebastian, but it has long been in possession of the Dutch. The approach to it is covered by reefs of rocks, through which there is a narrow passage for boats at low water, provided the surf be not high, as the winding channel between them may then be perceived from a boat outside. At high water they are all covered except a few large boulders, and the sea breaks so heavily as to present to a stranger no apparent channel. The landing is to the eastward, though the canoes safely wind their way through the western rocks.

Boosum Prah River.

A mile beyond the fort the river Boosum Prah falls into the bay between two lagoons ; it is said to come from a considerable distance, but was only examined for about $2\frac{1}{2}$ miles, where it was 100 yards across and 4 fathoms in depth. The water was quite fresh, and the banks, which were fringed with mangroves,

* See Plan of Chama Bay.

were only 3 or 4 feet above the stream. There were but 2 feet on the bar, which was of course impassable by the ship's boats, so heavy were the rollers that swept over it in three gigantic following waves. The natives nevertheless most adroitly paddled their canoes both in and out of the river.

The ground, which to the westward rises considerably above Fort Chama, sinks into a flat country to the northward. Some hills however were seen in the N.W., and one, 9 miles from the fort, bore N.E. by N.

Chama Bay, from Abboaddi Point to the Red Cliffs of *Chama Bay* Cotobray, is nearly 2 miles deep, with regular soundings, and without any dangers except those already described to the southward of Chama, and the Prah Rock, on which there are *Prah Rock*. but 6 feet, with three fathoms close round. This rock, which is very small, bears E. by S. a mile from Chama Fort, and S.S.E. $\frac{1}{2}$ E. half a mile from the mouth of the Boosum Prah. Vessels may freely anchor in this bay in 7 fathoms, sand and mud.

264. A straight beach, of nearly 4 miles in length, leads to the Red earth Cliffs of Cotobray. They are five in number with small sandy bays between them, and some large rocks above water at their base. An irregular line of rocks and breakers commences a mile to the westward of these cliffs, and continues their whole length ; but it reaches out only a quarter of a mile from the beach. The highest land in the vicinity of the cliffs is about 270 feet, from where the ridge descends gradually to the salt lake, near the Bossum Prah to the westward, and to the Abroby River to the eastward. That river, like most *Abroby River*. of the streams on this coast, has no communication with the sea till the rains begin.

265. Assay Point, or the Gold Hill, bears E. by S. $3\frac{1}{2}$ miles *Assay Point*, or *Gold Hill*. from Cotobray Cliffs ; the coast between them being nearly a straight beach of sand. The point forms but a slight projection from the coast-line, but being an insulated hummock, it has a remarkable appearance from the westward.

From Gold Hill to Commenda Point the shore is low and fronted by rocks. The point is also low and rocky, and just to the eastward of it the river Soosn comes down from the hills and passes between the forts of Commenda. The English fort, standing on the western side of the river, is a square of about 190

feet on the side, with bastions at the angles ; but having been for some years abandoned, it is rapidly going to decay. On the opposite bank of the Soosn, about 500 yards from the British fort, are the ruins of a Dutch fort, which was partially destroyed in the war of 1780 ; and though only a few blackened walls remain, the Dutch still claim the territory and cause their flag to be occasionally shown. A native town stands at the foot of each fort ; and tolerably good landing will be found in the little recess of the beach between them, under the high bar of the Soosn, the waters of which seldom break through it in the heaviest rains, but spread into a shallow pestilential lagoon.

Akalaki.

266. From the rocky point of Commenda, the village of Akalaki, on the beach, bears E. $\frac{1}{2}$ S. one mile, and Ampenee Point E. by S. 3 miles. A patch of rocks protrudes from this point about 300 yards ; round it there is a 2 fathoms channel for boats ; and then the Cassee Reefs stretch off E.S.E. $1\frac{1}{2}$ miles. Between these reefs and the beach the chart shows a single line of soundings of $3\frac{1}{2}$ fathoms, muddy bottom, and outside of them there is the same depth close to their edge, so that the surf at times breaks over them in high rollers.

Ampenee.

267. The town of Ampenee, which stands on the shore, and is half a mile to the eastward of the point, contains a large population ; and a little farther to the eastward there is another town, Akimfoo, which is built on the summit of a small hill. Between the two towns the river of Akiaboo comes down to the back of the beach, after winding among the rising grounds that approach the coast on its western side ; and 3 quarters of a mile beyond Akimfoo there is another of these pent-up rivers, the Branoo. The land about here appears broken into small hills, one of the highest of which, on the eastern side of the Branoo, is 200 feet above the sea.

Amquana.

The village of Amquana stands on the beach about $1\frac{1}{2}$ miles farther to the eastward ; and a little beyond the village, another stagnant river, the Bebo. From Amquana the Accra reefs run off S.E. by E. $\frac{1}{2}$ E. $1\frac{1}{4}$ miles showing themselves in three distinct patches, on which the rollers break with tremendous fury. There are 4 fathoms close to their outer face, and their eastern extreme is at least half a mile from the shore.

Bebo River.

From thence to Elmina the coast rises into downs of moderate elevations at various distances from the beach, and many of them

have been cleared of the forest, and are now cultivated. The beach is a hard sand, and nearly straight for the remaining 3 miles to Elmina Point.

268. The Castle of St. George del Mina* was the first European establishment on the coast of Guinea, having been erected by the Portuguese in 1481. It was captured by the Dutch in 1637, and was finally ceded to that nation by the crown of Portugal in 1641, together with some other smaller and dependent settlements of the Portuguese. The Dutch soon strengthened their position, built a commanding fortress on the adjacent hill of St. Jago, and successfully repelled the repeated attacks of the whole force of the King of Ashantee. It is now their head-quarters on this coast.

The castle stands obliquely on a low rocky peninsula, along the eastern side of the small river Beyah, which passes within 20 yards of one of its gates. This peninsula is connected by a wooden bridge with the opposite bank; and from this bridge to the sea the river is confined by two stone embankments. A large native town, which occupies the whole breadth of the isthmus, extends along the beach to the westward of the castle, and communicates with it by a drawbridge.

The fortress of St. Jago stands on a hill about 100 feet above the sea ; besides which there is the De Veers Redoubt, to the westward of the town, and the Beckenstein Redoubt near the Beyah, to the westward of Fort St. Jago.

269. Elmina Point is surrounded by a bed of rocks, which extend to the eastward, as well as to the southward, about two cables' lengths, and on which the sea breaks with great violence, especially when the sea-breeze sets in. These rocks are of essential service in sheltering the landing-place at the mouth of the Beyah, where the water is, however, very shoal; the ships' boats ground at some distance from the beach, and nothing drawing more than 15 inches can enter between the stone embankments. Yet it is said that, 50 years ago, Dutch vessels of 50 to 90 tons could enter it at high water, and unload upon the quay.

270. The Tide rises at the utmost 6 feet ; and on full and *Tides.* change days it is high water at 4^h 30^m.

The usual anchorage off Elmina is in 7 or 8 fathoms, sand or *Anchorage.* shells and mud, and a mile or more from the castle, with Mount Eguocco a little open to the eastward of St. Jago.

* See Plan of Elmina. No. 1713.

Elmina Bay.

271. From Elmina Point the shore recedes to the northward, about a third of a mile, forming a small bay ; and the surrounding country is undulating and thickly wooded. There are nevertheless some country residences and cultivated farms which belong to the Governor and merchants, and which afford them very agreeable retreats from the business, the crowd, and the heat of the town.

A slightly curving beach of nearly 7 miles in length leads to Cape Coast Castle ; near its commencement there are two small barred-up rivers, and between them the shore-line is rocky, but the rest of the beach is clean, and the soundings up to it regular.

Cape Coast Castle.

272. The castle of Cape Coast* (a singular corruption of the original Portuguese name, Cabo Corso) stands on a rock which forms an obtuse angle in the line of the shore. It was one of the early settlements of the Portuguese, but following the fate of Elmina, it was ceded to the Dutch in 1641 ; in whose hands it remained till 1665, when it was taken by the English, and finally secured to them by the treaty of Breda in 1667.

The landing-place is in a small bay under the north-east bastions, and just behind some rocks which generally afford much shelter from the sea. From the landing-place the ground rises gradually to the castle, which contains the Governor's and officers' houses, with a chapel, school, hospital, and storehouses, besides the Hall of Justice. There are also several spacious water-tanks from which vessels are occasionally supplied, but only by permission of the Governor. At a short distance from the castle there are three detached forts on commanding hills, Fort Victoria, Fort Macarthy, and Fort William.

Lighthouse.

On the latter a fixed light is shown for the benefit of mariners, which stands 192 feet above the sea ; and the same active and judicious authority by which the light was established, Mr. George McLean, the President of Commerce, has recently enabled all vessels in the road to rate their chronometers, by a ball which is dropped from the flagstaff every day at the instant of mean noon.

Ball for rating Chronometers.

The town, which is called by the natives Iguah, occupies a considerable space to the northward of the castle ; and besides its long lines of huts, contains a chapel and some handsome well-furnished houses ; a few of them, belonging to the merchants,

* See Plan of Cape Coast Castle. No. 1713.

display much taste both inside and out, and the residence of the native chief has a most respectable appearance.

The Rock of Tabara being the native name for the great mass of granite on which the castle stands, so a huge solitary stone that rises through the beach, to the westward of the castle, is called Tabara's Wife. A little farther to the westward there is a small salt lagoon, which is only separated from the sea by the ridge of the beach ; and at the south-west corner of the lagoon a little sandy hillock has been dignified with the name of Mount Edgecumbe.

During the dry season, vessels may anchor anywhere off the castle, as the ground is clear of rocks, the bottom being generally fine dark sand, with sometimes minute broken shells, and the depth decreases regularly and slowly to the shore ; but in the rainy season, when there is usually a long swell, it will be prudent to anchor in 10 fathoms, with the Castle and Fort William in one, bearing N. by W. $\frac{1}{2}$ W. and about $1\frac{1}{2}$ miles from the castle.

The north-east bastion of the castle is in $5^{\circ} 6' 5''$ N. and $1^{\circ} 13' 40''$ W.

273. It is high water at full and change at $4^{\text{h}} 30^{\text{m}}$; and *Tides.* the highest tides rarely amount to 6 feet.

274. The village of Mumford is at the foot of the hill which *Mumford.* rises above Mumford Point E. by N. half a mile from Cape Coast Castle ; and three quarters of a mile beyond Mumford Point there is a large granite boulder on the edge of the shore, called by the natives Abou Ketu.

Queen Anne Point bears from Cape Coast E. $\frac{3}{4}$ N. $1\frac{3}{4}$ miles. *Queen Anne Point.* The intermediate coast consists of many small bays and rocky points, with rocks close to them, which cause an almost continued line of breakers along that rugged shore.

The point is bold and cliffy, and rises to the hill of Acquon, *Acquon.* with a village, and the ruins of a fort. At the western side of the hill the small beach-barred river of Barca terminates ; and the adjacent land is hilly and covered with trees.

From Queen Anne Point to Point Moree it is N. 74° E. $1\frac{1}{4}$ miles. In the rocky bay between them there are several rocks from 100 to 120 yards off shore, and on an eminence above the point, the ruins of Fort Nassau, which belongs to the Dutch, though now long abandoned. It is a square like Secondee, and

Epper and Amfoor Rivers.

appears to be about the same size. A rock lies 400 yards to the eastward of the point, showing 2 black heads, on which the sea breaks ; but there is a 2 fathoms channel inside of it. To the eastward of the point there are 2 barred-up rivulets, the Epper and the Amfoor, and from thence a clean shore partly sand and partly rock, as far as the bold commanding point of Anashun.

Anashun Point.

Nearly a mile to the eastward of Anashun Point, and a third of a mile S. by E. from the trading house on an eminence in the village of Brewah, there is a breaking rock, with $3\frac{1}{2}$ fathoms inside of it, and 4 fathoms close to its outer side.

Gwonkon River.

A little to the eastward of Brewah there is a small lagoon ; and farther on a beach-barred river called the Gwonkon. In front of all these places, that is to say, from Anashun Point to Anamaboe, a distance of 3 miles, the beach is very foul, with off-lying rocks to the distance of a quarter of a mile in some places. Between the Gwonkon and Anamaboe there are several large black rocks close to the beach.

Anamaboe.

275. The British fort of Anamaboe stands in a little cove upon a flat sandy beach. It is a square, with regular bastions at the angles, and contains good barracks and storehouses, as well as a handsome hall, and other buildings for the accommodation of the garrison. The Ashantees a few years ago made a desperate but unsuccessful attack upon it, but were repulsed with great loss.

Anchorage.

The westernmost of the five hills of Cormantine in one with Anamaboe Fort, is a good mark for anchoring, as the ground in that line is excellent, all blue mud with sand and shells ; and the approach to the shore quite regular from 9 fathoms at 2 miles to 6 fathoms at 1 mile ; so that a vessel can take any berth she chooses according to the season.

Agah.

Not quite a mile to the eastward of Anamaboe the hill and foul point of Agah, with a small native town, projects into the sea ; and some confused ledges of rocks project a quarter of a mile farther.

Cormantine.

276. On a hill which rises from a bold rocky base about a mile E.N.E. of Agar, stands the ruins of Fort Cormantine, which is a square about 100 feet on the side, with bastions at the angles, and an outwork which seems to have been a parade-ground, or probably a place in which to give the slaves air and exercise.

In common with other forts of that period, the guns were mounted on platforms supported by arches, under which were the barracks and storehouses. On the south-west side of the fortress, there is a tower 146 feet above the sea, and on the northern side a series of apartments, the roofs and floors of which have fallen in, as well as many of the internal walls. The whole area within the walls is full of shrubs and weeds, and the ruined buildings swarmed with bats.

Cormantine is said to have been the first fort built by the English on the Gold Coast. Its position, on a moderate eminence overlooking the sea, must have rendered it airy and healthy ; and the ruin is at present the most picturesque of any on that coast. It was taken from the English by Admiral de Ruyter in 1663 ; and from that period remained in the possession of the Dutch, under the name of Fort Amsterdam, till 1807, when it was plundered by the Ashantees. It is now entirely abandoned, though the sovereignty is still claimed by the crown of the Netherlands.

On the western side of the fort, down the slope of the hill, there is a small native village ; and on the eastern side a winding path leads to a little sandy bay, which is the usual landing-place. The small river Etsin, barred up in the dry season, discharges its waters by two branches during the rains, one into this bay, and the other nearly a mile farther to the eastward ; and across the valley which the Etsin drains, at the distance of about a mile from the fort, the large native town of Cormantine stands at the corner of a ridge of high ground. In the town there are some very large trees, the tops of which, being 260 feet above the sea, may be seen as far to the westward as the anchorage off Cape Coast Castle.

The country in the vicinity of Anamaboe and Cormantine is diversified with hill and dale, but does not appear to be heavily timbered ; there are, however, some remarkably great trees, farther to the westward, on a ridge of hills about 4 miles N.N.E. from Cape Coast Castle. The hills which will attract the attention of the mariner about this part of the coast are the five hills of Cormantine, which vary from 440 to 610 feet in height ; a group of three hills about 2 miles farther to the N.N.E. ; and 4 or 5 miles to the northward of these a blue ridge on which there are three hummocks.

Etsin River.

Cormantine Town.

Great-Tree Hills.

Cormantine Hills.

277. At Cormantine the character of the coast again changes, turning suddenly E.S.E. $\frac{1}{2}$ E., and preserving un unbroken line of straight sandy beach for 15 miles to the village of Koontan-querry. In this extent the approach to the coast is clear, without a single rock, and the soundings are perfectly regular over a bottom of fine sand and broken shells. The coast is very low, and on its margin are 10 villages, each standing in a dark clump of cocoa-nut trees. It possesses also a few streams, of which the Amissa and the Nacqua are the largest. The former is said to come from a long distance in the interior, its source being close to that of Boosum Prah, which enters the sea near Chama, and in April was just strong enough to force a small swatch through the sand, not sufficient for a canoe to enter ;
- Amissa River.*
- Nacqua River.*
- Imooma and Sasra.*
- Brabra Pow Hill.*
- Tantamquerry Point.*
- Babli Point.*
- Leggoo.*
- Quaben Hill.*
- but it is said to be deep within. The latter, 5 miles farther to the eastward, only showed itself inside the beach in April, where it spread into a lagoon, but in May it opened and discharged a large volume of water. At Imooma and Sasra there are salt lagoons ; and from behind those villages the land begins to rise to a higher elevation. N.N.E. of Nacqua there is a peaked hill called Brabra Pow, about 430 feet above the sea ; and the hill N.N.E. of Koontanquerry, which is 380 feet, is seen from the tower of Fort William at Cape Coast Castle. Most of this part of the coast is cleared of trees and covered with long grass.
278. Two miles of alternate rock and sand lead to Tantamquerry Point, where there is a native village called Tooam, with a conspicuous white washed house in front of it ; but the landing there is difficult. The old English castle of Tantamquerry stands on the crest of a rocky hill, a quarter of a mile to the eastward of the point ; it has long been abandoned, and is now a complete ruin choked with jungle. The flagstaff still remains upon the building.
- Babli Point.* a mile and a half farther east, is a large black rock, on both sides of which there is a good deal of foul ground. On each side of it also there is a stagnant lagoon ; and a quarter of a mile inland from the point the village of Leggoo appears on a rising ground with a grove of tall trees. N.N.E. of Leggoo $3\frac{1}{2}$ miles there is a table-hill 520 feet above the sea, called by the natives Quaben ; and farther in shore there are four other hills, to which the seamen who frequent this coast

have very capriciously given the names of the four cardinal points of the compass.

279. From Leggo the coast to the eastward is formed by several little sandy bays and points, with some straggling rocks about them, but not extending more than 150 yards from the shore. The town of Gammah stands on the eastern part of a high double point of rock ; with a lagoon in the valley, three quarters of a mile to the westward of the point. The English once had a fort or trading-house here, called Mumfort, but no vestige of it now remains. A mile beyond Gammah, and 2 cables' length from the shore, there is a breaking rock, with $2\frac{1}{2}$ fathoms close round it.

Gammah or Mumfort.

A mile farther, the point of Apam forms like a small hummock on the eastern side of a saddle-shaped hill, which rises immediately from the sea, and which is surrounded by rocks above and under water : these rocks extend nearly half a mile along the coast on either side, but not outwards more than half a mile. On the hummock there is a native town, as well as the ruins of the old Dutch fort of Apam ; but the hall is kept in a habitable state by a Dutchman of colour, who has charge of the flag. The town, with a number of its inhabitants, was destroyed by the Ashantees in 1811, and shortly afterwards Attah, a native chief, pillaged the fort, burnt the gun carriages, and laid the whole building in ruins.

The bay to the eastward of Apam point is smooth, though shallow, being sheltered by the point and its surrounding rocks ; the landing is good and dry when a canoe is employed, but too shoal for ships' boats. The little river of Apam has its entrance at the head of the bay, half a mile N.N.E. of the fort, but the bar is only passable in canoes ; and inside the bar the river spreads into a salt lagoon.

280. To the eastward of the river Apam there is a sandy beach $1\frac{3}{4}$ miles in length as far as the rocky point of Kitchoroo ; and in the interval there are some detached rocks, which stretch out nearly half a mile from the shore, with a 2 fathoms channel inside. Two of them show their black heads above water, and are by the natives called the Assakri.

Kitchoroo Point.

Assakri Rocks.

To the eastward of Kitchoroo there is a long ledge of rocks, on which the sea breaks heavily : it is a quarter of a mile in breadth, and accompanies the beach for a mile, to the foot of

Mamquady Hill. The natives of the village, of the same name as the hill, ply their canoes amongst these breakers with great dexterity, and beach and launch them freely under the shelter they afford.

Mamquady Hill.

Mamquady Hill is a bold high land, with a steep ascent from the sea, above which its highest point, at the south-east end of the ridge, is 670 feet. But there are some other hills which bear the same name, at least they are called the High Range of Mamquady. They lie in an east and west direction, between 5 and 6 miles from the shore ; their highest point is 930 feet above the sea ; they are covered with vegetation : the trees on some of them are of very large dimensions ; and they form fine sea-marks, for miles on either side.

A mile to the eastward of Mamquady Hill the little river of Munnee forces a shallow passage through the sand, but in the rains it is the outlet of a large body of water.

Winnebah.

281. The point of Winnebah, which is low and rocky, bears E. $\frac{1}{2}$ N. distant 7 miles from Fort Apam. The town stands on the beach of a small bay on the eastern side of the point, and above the town are the ruins of a British Fort. Two white-washed trading houses on the point are easily seen when approaching from the westward. At low water the landing here is good for canoes, being sheltered by the reefs off the point, which are then uncovered ; but at high water it is very difficult.

The British fort, of which nothing remains but a bare mound of earth, was destroyed by H.M.S. Amelia, after the murder of the commandant, Mr. Henry Meredith. The natives are described as turbulent and ferocious ; yet Mr. Hutton, an English merchant, resides there, and carries on some trade. The neighbouring country is rather low, but undulating, and with more brushwood than forest. The river Ayhnsoo falls into the sea a mile to the eastward of Winnebah, and being somewhat sheltered by that point, as well as by the adjacent rocks, its mouth is always open.

It is said that the slave-vessels watered here, by means of the natives with their canoes, which must have been a very tedious operation.

Meredith Point.

282. From the Ayhnsoo river a straight sandy beach runs E. $\frac{1}{2}$ S. $6\frac{1}{2}$ miles to Meredith Point, when the coast again becomes

rocky, and turns more to the northward. In this space the line of coast is low, but behind it the land rises into gentle hills, the highest of which, Mount Seniah, is about 370 feet above the sea. They are generally bare and sunburnt, but covered with low stunted bushes. Long Hill with a grove on its summit rises to 550 feet, and bears N. by W. $\frac{3}{4}$ W. 6 miles from Meredith Point. About 10 miles N.N.E. from the same point, a hill with two remarkable hummocks rises to 770 feet. Its name is the Brekoo Opra, but by seamen it is generally called the Paps. And to the N.N.W. of that hill, and 16 miles from the shore, there is a still higher range, which extends 6 miles in an E.N.E. and W.S.W. direction. Near the centre of the range, one part of it, which assumes the shape of a camel's hump, reaches very nearly to the height of 1200 feet above the sea. All these hills seem to rise out of one extensive plain.

283. Barracoe Point,* which lies three quarters of a mile E.N.E. of Meredith Point, is high and rugged, and of a dirty red colour. On an eminence above it stands the native town of Seniah, as well as the abandoned Dutch fort of Barracoe, which is in a state of rapid decay ; but some patches of whitewash still remain upon the walls, and render the building visible from the offing when the sun shines upon it.

Seniah is large, and much cleaner than most of the towns on this coast. It is said that vast numbers of large baboons infest the neighbourhood of this place, and commit great depredations.

From Barracoe Point to the eastward, the coast is formed by small sandy bays and rocky points, at the base of which lie a few scattered rocks ; and the land rises to a ridge of moderate height, which lies in a parallel line to the coast as far as Fettah Bay.

284. Fettah Point is sandy on the western side, but to the eastward a rocky cliff turns at right angles to the coast, and forms a bay half a mile across, at the head of which the town of Fettah stands upon a rising ground, with the little river Kahkoo winding round its foot. When closed in the dry season, this river spreads itself into a lagoon beneath the town. Fettah affords better landing than any place on the coast, except Dix Cove and Elmina.

285. Half a mile to the eastward of Fettah, a reef projects from the shore 2 or 3 cables' length : the remainder of the shore

* See chart of West Coast of Africa, Sheet XIV.

Dampah Hill.

is clean as far as Nyanyano village, which stands in a grove of high trees, and at the foot of the village a little river passes from behind a small rocky point into the sea. A few rocks lie close off the mouth of the river ; and to the eastward a long beach, but slightly curved and everywhere safe, extends for 12 miles to Agra. In the interval, about 2 miles from Nyanyano, the remarkable hill of Dampah will be observed close to the shore. Its name among the old traders on this coast was the Cook's Loaf. This hill is the termination of a range of high land which comes from 50 miles in the interior, in a south-western direction, and which, though it appears to have many breaks or openings, steadily increases in height. At two miles from Dampah it is 600 feet above the sea ; at 17 miles, 1350 feet ; and at 22 miles 1560 feet ; from whence in its progress to the north-east it falls to 1430 feet, but everywhere appears to be covered with forest. To the westward of this range, and about 18 miles N. by E. $\frac{1}{2}$ E. from Dampah, there is a conspicuous peak called Nakeem, apparently insulated, and about 1000 feet in height.

The 600-feet part of the range above mentioned is a table-land, and round its eastern end the Secoom river winds down to the sea, which it enters through an open mouth ; but the surf was too high for a boat to enter. This stream is supposed to be the eastern boundary of the Fantee country.

*Agra.**Fort James.*

286. Agra Point is a rock, but its outer extremity, on which Fort James is built, rises only 36 feet above the sea. A few scattered rocks lie round its base ; and the landing-place is a little patch of sand scarcely sheltered by those rocks. The surf is so high, and it requires so much skill as well as local experience to pass through it with success, that no ships' boats should ever attempt to land ; but the natives in their canoes have from long practice acquired the habit of landing and embarking with ease and safety ; and no seaman can witness, from the fort, their operations, without admiring their self-possession, courage, and dexterity. The fort, which is nearly a square of about 145 feet on the side, with regular bastions, is the last military work occupied by the British on the Gold Coast.

The town spreads to the N.E. and N.W. of the fort ; it consists of several narrow streets of native dwellings, but it can also boast of some good houses, belonging to the English mer-

chants. To the westward of the town there are some brackish pools of water, which stagnate there after the rainy season.

Water, cattle, small stock, fruit, vegetables, and other supplies may be obtained here ; but application should immediately be made to some merchant of respectability. Captain Vidal and the officers employed on the Survey derived the greatest assistance from the public spirit and personal kindness of Mr. Bannerman, whose name is known on this coast from Sierra Leone to Princes Island.

There is a constant communication between Acra and the Ashantees, who bring from the interior much of the gold exported from this place ; and as the country, as far as the high range of hills recently mentioned, is a fine open plain with a light soil, studded with shrubs, and not much heavy timber, agreeable and healthy rides may be made in all directions. The distant hills indeed are covered with dense forest, but the valleys between them are described as fertile and beautiful.

On the eastern side of Fort James, between 600 and 700 yards from it, are the ruins of the Dutch Fort of Crevecoeur, *Fort Creve-coeur.* which was destroyed at the same period as that of Cormantine. It is built upon a rocky cliff about 50 feet high, and appears to have been of an octagonal form ; with a large enclosed space adjoining it, which, as it contains storehouses with other buildings, and a large open tank, was probably the slave-yard of the establishment. The place is no longer garrisoned, but a black serjeant from Elmina resides there, and occasionally exhibits the Dutch flag.

287. Two miles to the eastward of Fort James the Danish castle of Christiansborg stands upon a rocky point about 35 *Christiansborg.* feet above the sea. On each side of it the beach forms a slight sandy bay, and in front there are a few scattered ledges of rock, on which the sea breaks heavily. The castle was originally built by the Portuguese, but after several times changing masters it was finally confirmed to the Danish crown in 1694 ; and has from time to time received various additions until it has become a considerable and imposing, but very irregular pile of building. Its principal part approaches the form of a square of about 190 feet in the side, with irregular bastions. Within the main walls there are several elevated

buildings, such as a chapel, hospital, and storehouses, with spacious and airy quarters for the Governor and officers.

The native town, which lies to the northward of the castle, has not a very cleanly appearance, and the adjacent pond of stagnant water does not much contribute to the salubrity of the place. To the westward there is a Mortella tower on a small sandy eminence, and also a black wooden-framed wind-mill. Farther inland there are a few detached dwelling-houses, belonging to the Danish merchants.

The landing at the Castle Point, which is usually effected under the imperfect shelter of the rocks, is very difficult, and seldom attempted, except by the natives in their canoes.

The merchants of British and Danish Acra have made a handsome road between those places, with trees on each side, which render it an agreeable walk or drive.

288. The soundings along the whole coast from Cape Coast Castle to Acra are regular, shoaling gradually towards the shore up to 3 fathoms, which is as close as boats can generally approach the surf. The quality of the bottom is fine dark grey sand, with sometimes broken shells, sometimes mud. At a mile from Acra there will be found a depth of 5 fathoms; at $1\frac{1}{2}$ miles, 7 fathoms; and at 2 miles, 8 to 9 fathoms. During the dry season vessels may anchor in 5 or 6 fathoms, but during the rains it will be prudent not to approach nearer than 8 fathoms.

289. From the tops of the houses in Acra, Nakeem Peak may be distinctly seen in clear weather, bearing N. by W. $\frac{1}{2}$ W. about 20 miles; and N. by E. 6 miles from Christiansborg there is a solitary hill in the plain, which has been named Mount Zahrtman, the summit of which is 540 feet above the level of the sea.

From Christiansborg a sandy beach with a few rocky patches runs East a couple of miles to the village of Labadee, which stands on a little rising ground in the centre of a grove of high trees, nearly half a mile from the beach. Three miles farther there is a large native town called Tassy, but it is not easily perceived, the mud houses and ground being all of the same colour. The land in its vicinity is flat for several miles inland; and covered with grass, and a few clumps of low trees. To the westward of the town may be seen the remains

Labadee.

Tassy.

of a Dutch fort ; the flag-staff of which is yet standing, but the place has been many years abandoned.

290. To the eastward of Tassy the coast-line is a sandy but devious beach, with a few rocks at the points, and a few ledges at considerable intervals, but neither projecting more than a quarter of a mile. The country is open, with occasional tress or groves, instead of the former continuous forests, and the native villages are scarcer and smaller. Ningo, 2 miles *Ningo.* from Tassy, stands on a rising ground, a third of a mile from the shore ; and Temma, 5 miles farther, has a similar position, with a fine green slope down to its eastern bay. On that slope *Temma.* there is a large round-headed dark tree, standing conspicuously alone, and indentifying the place. The Dutch, it is said, once possessed a fort here, but there are no remains of it visible.

291. In the interval between Tassy and Temma, about a mile and a half short of the latter, there is a small black rock on the eastern end of one of the above mentioned ledges, and detached from the shore nearly 300 yards, which lies exactly in the meridian of Greenwich. *Greenwich Rock.*

292. A mile and a half beyond Temma the beach forms a point, from which a sort of reef projects to the southward; and another mile and a half brings us to Grove Point, with a similar reef projecting to the eastward. From this point likewise a spit or tongue, which has been named the Vernon Bank, runs *Grove Point.* off fully 12 miles in an E. by S. direction, and consequently at an angle of about $1\frac{1}{2}$ points with the general trend of the shore. Its formation is very irregular, some casts of the lead showing sand, others gravel, stones, and narrow ledges of rock. The average depth on it is between 5 and 6 fathoms, and on the shoalest part $4\frac{1}{4}$ fathoms, which is south of Ponee. There are 10 fathoms close to it on its southern side, and on the northern 8 or 9 fathoms, with regular soundings from thence to the shore, consisting of brown sand with minute broken shells. It is believed that there is no danger on any part of this bank, but vessels would do well not to approach it unnecessarily within 12 or 13 fathoms. *Vernon Bank.*

In a bay $1\frac{3}{4}$ miles to the eastward of Grove Point is the town Ponee, on a rising ground a quarter of a mile from the beach ; *Ponee.* and it may be known by a single white house belonging to Mr. Fraser, a British trader at Acra. Two ledges of rocks lie

at the foot of the hill, but they are of small extent. The usual landing-place for Ponee is on the beach close to the northward of Grove Point, the reefs off which afford some little shelter.

Prampram. 293. To the eastward of Ponee $3\frac{1}{2}$ miles, the town of

Prampram stands, like Ponee, near the summit of a low hill, and is three quarters of a mile from the beach. It may be recognised by Mr. Bannerman's and Mr. Harison's two white houses, which are rather in advance of the native huts. Near the beach below the town may be seen some native houses, and the ruins of Fort Vernon which formerly belonged to the British, but has been for some years abandoned. The landing-place is opposite the fort, on a clear bit of the beach between two patches of rocks which extend a mile on each side, and on which the sea breaks violently.

Fort Vernon.

294. From Prampram, Great Ningo bears E. by N. 4 miles; and the space between them is an open beach with only one patch of rocks. The Ningo River, though small, is said to be always open, and navigable for canoes, whenever the heavy surf which rolls in upon the bar allows them access. Its entrance is very narrow, between two low sandy points. On the eastern point the Danish fort of Frederiksborg was built in 1734, and appears to be nearly smothered in a thick tope (grove) of cocoa-nuts. It is a dependency of Danish Agra, and is in charge of a serjeant from the garrison of that place.

Ningo River.

295. The country immediately inside of the latter part of the coast, and to within a mile of the Ningo River, is an extensive plain, of pleasing appearance, partly open and partly diversified with cheerful-looking groves or large single trees, but neither heavy forest nor unhealthy jungle. It contains many scattered hills of various elevation, amongst which there is a picturesque group with a singular outline rising to the height of 950 feet above the sea, and called by the natives the Crobo Hills. They are about 12 miles from the shore, but other hills will be seen to the north-east, one of which from its form was named the Abbey Dome by the sailors ; and at 18 miles from the mouth of the Ningo, and just in its meridian, the well known Peak of Ningo Grande stands at the height of 1431 feet.

Crobo Hills.

Ningo Grande Peak.

296. For nearly 4 miles to the eastward of the Ningo the beach is accompanied by a broad ledge of rocks, over which a small river discharges itself, and being protected by them, its

mouth is probably always open. The ledge is nearly steep-to, having 4 fathoms as close as a rowboat can approach the heavy surf which rolls over it incessantly. These rocks are the last seen upon this coast.

From the above ledge of rocks to the entrance of the River Volta there is an uninterrupted beach of 26 miles in length, and so slightly curved as not to recede more than 2 miles from the straight course, which is E.S.E. $\frac{1}{2}$ E. For the first 5 miles a low clay cliff rises immediately from the beach; but then breaks down into a mere ridge of sand with a few bushes. This ridge is not more than 12 or 15 feet in height, and continues for 13 miles to Occo, separating throughout that space the sea from the great salt lagoon and the swamps which are produced by the overflowing of the Volta. From the mast-head the whole *Volta Lagoon*, face of the country appears a wooded morass, as far as the eye can reach ; and the surface of the lagoon is broken by large tracts of swamps, some of which are covered with grass, and others by jungle, with here and there a few high trees.

297. The village of Occo is 200 or 300 yards from the *Occo* beach, near the eastern extremity of the lake ; and surrounded by cocoa-nut trees, which, as there are no others near it on either side, give it the appearance of an island when seen from a distance. A quarter of a mile to the eastward of Occo, the ground, though intersected by swamps, is again covered with verdure and is again succeeded by thick groves of palm-trees mixed with jungle, which extend to the banks of the Volta. There appeared to be other villages in the bush, as well as on the beach, the inhabitants of which have long poles stuck in the sand, and occasionally hoist Danish or Portuguese colours.

298. The River Volta is said to come from a long distance in *River Volta*, the interior, and, separating the great kingdoms of Ashantee and Dohomy, passes near the base of the Ningo Grande Peak ; from thence it takes a south-easterly direction towards the coast, and enters the sea between two low spits of sand. The western spit, which is a mile and a half in length, overlaps the other, but so as to leave an entrance of more than a third of a mile in breadth. The bar sweeps round in a semicircle before the outlet of the river, to the distance of a mile from the coast and at the period of the Survey the surf was far too heavy for any boats to attempt to cross it ; but from the mast-

head a good view was obtained of the bar, and of the country, and about 5 miles up the river. Immediately within the two sandy tongues or spits which form the entrance, it expands into a wide basin, both banks of which appear to be formed by small islands covered with mangroves down to the water's edge. It is then suddenly contracted, by two opposite points or islands, but soon again spreads out and forms a reach of considerable magnitude with a northern direction. A large branch brings into it here the waters of the great eastern lagoon ; and above their confluence a wooded island was observed in the middle of the reach. On the eastern bank, about a mile above the entrance points, there is a dark grove, which makes like a bluff headland ; two miles to the eastward of this grove there is another in the form of a conical hill ; and on the western side of the river there are three other high groves. Indeed the trees in the immediate neighbourhood of the Volta seem to attain an unusual height.

Adda.

It is said that there is a large town called Adda on the left bank of the Volta, about 6 miles from its mouth, and near it the Danish fort of Kongenstein, which, though in a state of rapid decay, is in charge of a serjeant belonging to Christiansborg Castle. It is also asserted that a Danish cutter of 120 tons once entered the river, and went up to Adda, and that more recently an American brig had gone there for the purposes of trade, having procured a pilot at Danish Acra.

In front of the bar there is a depth of 5 fathoms within 150 yards of the actual breakers, and the bottom, being composed of mud and sand, affords good anchorage.

There are several villages on the sands to the westward of the river, but their inhabitants showed no disposition to communicate with the surveying vessels, partly on account of the high surf which was rolling in upon the coast, and partly from the extreme jealousy with which they view the endeavours of the English to put down the slave-trade. Against these feelings, stragglers and unprotected visitors should be well on their guard.

299. From the mouth of the Volta the shore, which continues to be a straight clean beach, takes an E.S.E. $\frac{1}{2}$ E. direction, and for 7 miles the land is covered with a dense forest, principally of fan palms.

The town of Atakoo was once a notorious slave mart : it is *Atakoo*. 8 miles from the Volta, and half a mile from the beach.

300. From Atakoo the coast-line bends gradually to the eastward, towards Cape St. Paul, on which, at 6 miles from *Cape St. Paul*. Atakoo, two palm-trees may be observed ; at 3 miles farther, the coast having turned more to the northward, a round clump of trees near the village of Wyee will be seen ; and then it sweeps round rapidly to the N.N.E. $\frac{1}{2}$ E. for 5 miles, to the town of Quitta. The curve of the shore, being so gentle and equable, it is difficult to say what part of it should be called Cape St. Paul. Perhaps the above-mentioned two palms may be thought to mark best its extreme pitch, but they are scarcely visible till a vessel is close in ; while the clump of Wyee is a remarkable object in all directions. Here also this obtuse angle of the coast appears to obtain its greatest south-eastern prominence ; and upon the whole, therefore, we shall assign to that spot of the beach which lies abreast of the Wyee clump the name of Cape St. Paul. The position of the clump is $5^{\circ} 49' 56''$ N., and $0^{\circ} 58' 30''$ E.

301. From Atakoo to Quitta, or in other words the whole *Quitta*. face of Cape St. Paul, is only a narrow ridge or barrier of sand, which separates the sea from that great eastern lagoon already mentioned as being connected with the River Volta, receiving its overflowing water, and stretching away to the eastward for many miles. On this narrow strip of sand stands the native town of Quitta, and a fort belonging to the crown of Denmark, the last of the European settlements on this part of the coast of Africa. It is in a state of great dilapidation, but the colours are still kept flying, and are in charge of a serjeant of Christiansborg Castle. The native town is large, and on the western side of the fort ; the huts are built principally of clay, and neatly thatched with long grass ; but the houses of the wealthier natives generally occupy the side of a square, the enclosed area or court being common to three or four of them. There are several narrow streets of such buildings with these little picketed enclosures, and some appeared to be neatly kept. Both the town and the fort are concealed from the southward by a very large grove of lofty cocoa-nut trees.

Supplies.

302. There is no good place between Aera and Quitta for obtaining either wood or water; but cattle and stock are abundant in the vicinity of Cape St. Paul, and may be procured without difficulty from the natives at Wyee and Quitta. The surf is, however, much too high along the beach to employ the ships' boats for this purpose. Vessels desirous of communicating with the shore may anchor at any distance they please, as there are no dangers whatever, the soundings regular, and the bottom fine white sand near the beach, and mixed with shells and mud farther out.

From the walls of Quitta the banks of the lagoon are seen stretching away to the eastward towards Popo, a distance of upwards of 30 miles; and the country on the other side of the lagoon is described by the natives as being very productive. The inhabitants of the long intervening ridge between the lagoon and the seas derive all their supplies of provisions from thence, which occasions a very considerable canoe traffic between the opposite shores.

303. With the palm-trees on Cape St. Paul bearing N.N.W. the bank of soundings extends 7 miles from the land; and in the meridian of these trees it is very flat, and dropping suddenly from 11 fathoms to no bottom with 50 fathoms.

CHAPTER VIII.

FROM CAPE ST. PAUL TO CAPE FORMOSA, OR THE
BIGHT OF BENIN.*

304. THE obtuse projection of the coast called Cape St. Paul, *Cape St. Paul*, is in fact a segment of a circle of about 7 miles radius; its only distinguishing marks are the two palm-trees and the clump of Wyee; and it separates what in the common parlance of the maps is called the Gold Coast from the Slave Coast; which latter extends round the Bight of Benin.

305. The outer edge of the bank of soundings approaches Cape St. Paul, within $6\frac{1}{2}$ miles, and falls at a cast to 200 fathoms, and no bottom.

306. From the Cape-tree, the low brushwood coastline convexes gently to the north-eastward, for 3 miles to the next slave station called Awey or Wyee. At this place canoe communication may be had with the shore, and plenty of stock. It may be known by a fan-like cluster of trees, a group of huts and a flagstaff, with a remarkable clump of trees called Tebwyl, 2 miles to the northward and 3 quarters of a mile inland.

From Awey to the shore, with rather more convexity, trends about N.E. by N. for $5\frac{3}{4}$ miles to Quitta, a place easily identified by its whitened fort and clustering trees, and standing a quarter of a mile from the beach. It is occupied by a Danish guard which interdicts any slaving practices ; but is now in a dilapidated state, with its embrasures crumbling into slopes. About 50 huts lie on the southern side of the fort ; and the lagoon comes to within 353 yards of it to the north-westward. The people at Quitta are extremely civil, and assiduously meet every demand for refreshments ; to facilitate which a vessel should anchor as close in as half a mile in 7 fathoms ; other-

* This chapter is adopted from the report of Captain Denham, R.N., who was employed by the Admiralty in 1846-7 in surveying the Bight of Benin. Published in sheets, commencing with sheet XV., from Cape St. Paul to Porto Novo (No. 1860); scale a quarter of an inch to a mile.

wise in 10 fathoms, at 2 miles off, with the fort bearing N.W.* The edge of soundings lies 9 miles off Quitta on a S.S.E. bearing, abruptly dropping from 38 fathoms black mud to no bottom with 200 fathoms.

From Quitta the coast-line takes a straight bearing of N.E. $\frac{1}{2}$ E. for $8\frac{1}{2}$ miles to Elmina Chica, with, like the previous shore, clean ground in 6 fathoms, at half a mile off the surf. At $1\frac{1}{2}$ miles from Quitta the Four-trees will be seen forming a square, and there the lagoon is only separated from the beach by a ridge of ground 200 yards wide. At equal distances in advance towards Elmina Chica from those trees, stand the villages of Acquijah and Blookoos.

The Four-trees.

Acquijah.

Blookoos.

Elmina Chica.

Adaffi.

Flohow, or Porourah.

Gulf-weed.

Fish Town.

From Blookoos the same jungle-looking plain, beach, and surf extend $4\frac{1}{2}$ miles to the slave station of Elmina Chica, with its flagstaff, group of huts, and some odd-looking clumps of trees which help to mark that place.

From Elmina Chica the coast, with the same general appearance, bends gently outwards for 5 miles to a beach village, called Adaffi, where a remarkable bleached and scathed tree stands amidst the bushy trees in the rear of the village like an unrigged mast. A flagstaff also, with occasionally a white flag, a short distance to the westward of the huts, serves to distinguish it from the next coast village, which is called Flohow or Porourah, and which bears east 3 miles. Neither at this place where there are but two huts, nor at the intermediate places between it and Quitta, will the signal for a canoe be attended to with any certainty. In that interval of coast, 8 fathoms fine brown sand are found at half a mile off, and the edge of the soundings is 13 miles distant, dropping abruptly from 43 fathoms black mud. Patches of gulf-weed may be seen hereabouts drifting to the eastward, in May, at the rate of half a mile per hour.

307. From Porourah the beach is nearly straight for 25 miles on the bearing of E. $\frac{1}{4}$ S. to Little Popo ; the first 18 miles being a range of bushy sandhills, with tall insulated trees a mile apart; and with 7 fathoms dark sand at half a mile off. At the termination of those $18\frac{1}{2}$ miles, a single hut and flagstaff is called

* It must ever be borne in mind, while at anchor at Quitta or on this part of the coast, that the tornado often blows on shore.

Fish Town, and 3 miles farther, just within high-water mark, *Gomalouta, or Porto Seguro.*

This place is presided over by John Jack, who professes to his English visitors that the frequent fires burning in the village is in the operation of boiling down palm oil, but it is an active slave station. He estimates his community at a thousand, and states the lagoon, which lies 2 miles inland, to be a mile in width, and 2 fathoms in depth ; with a town called Badaby on its inner margin. Here, a signal for a canoe will be faithfully answered, and a supply of poultry, pigs, yams, and fruit can be supplied, even small quantities of water. The tall inland trees, directly behind Fish Town and Porto Seguro, have the appearance of a comparatively hilly ridge.

308. At $3\frac{1}{2}$ miles farther on, and in the direction of E. $\frac{3}{4}$ S., Little Popo presents an imposing front of beach store-houses, and signal-poles, which display the British ensign at three positions, and one of which marks the residence of the native chief, who, styling himself George Lawson, presides over the town. A creek of the contiguous lagoon, comes in an oblique direction from the N.E. to within 120 yards of the sea-beach, dividing the town, which is a quarter of a mile inland, from the whitewashed store-houses and dwellings that range along the high-water mark for the space of a mile; so that to proceed to the town, either the head of the creek must be rounded, or the creek, which is 14 feet deep and 300 yards wide, must be ferried.

George Lawson, being the "trade-man" for Messrs. Hutton's palm-oil and ivory trade, is well-disposed towards the English, and under his auspices (and with the compliment of a call and a present of a few yards of cloth or duck) stout canoes may be hired, and stock purchased. He sends off his son or nephew, with his own gold-headed cane, to proffer and authorize his services. To merchant vessels he hoists a large white flag with his initials, G. L., in red, to show his readiness to trade ; but notwithstanding this fraternizing disposition of the chief, Little Popo must retain its character of being a slave station.

A convenient berth for anchoring may be taken with the eastern end of the beach stores bearing N. by E. $\frac{1}{2}$ E. in 8 fathoms fine sand, about a mile off the heavy beach surf. A night should not be passed closer in, and, even at that distance, on any part of this coast a second anchor should be ready in case of a roller-surge snapping the cable when there is no land breeze.

Gulf-weed. The edge of the bank lies 13 miles off Little Popo, dropping suddenly from 48 fathoms black mud to no bottom. The gulf-weed is swept in by the swell to within a mile of the shore, and therefore lies obliquely to the set of the stream, which is to the eastward, except in the Harmattan season.*

Aghwey. Leaving Little Popo, the coast, after a gentle deflection, runs E. $\frac{3}{4}$ S. for 4 miles to another group of storehouses, where our flag is displayed, and where another trading agent of Messrs. Hutton superintends the collection of palm-oil and ivory, as well as the introduction of our manufactured goods. This place is called Aghwey, and, like Little Popo, is classed as a slave station in our cruisers' list.

Great Popo. After 13 miles of a bushy surface with scattered palm-trees, we arrive at Great Popo, where the sand ridge is broken through by the occasional outfall of the lagoon.

No indication of the town is seen from the offing, as it lies at the back of the sand-ridge, nor is any canoe ready to communicate with the stranger, it being a determined slave station. A group of huts stretches along the western beach under a grove of table-trees ; and a clump of lofty trees, which stands 3 miles to the eastward, and which is commonly called Mount Pulloy, helps to mark the site of Great Popo.†

Whydah. 309. The coast from thence for 12 miles, on the bearing of E. $\frac{3}{4}$ S. resumes its former appearance as far as the next principal trading place, the sea-town of Whydah. This place lies 8 miles to the eastward of Mount Pulloy, or, as it is sometimes called, Mount Palaver ; and it may be known at 3 miles to the westward by two palm-trees, called the Brothers. This beach station of Whydah presents to the view from seaward but half-a-dozen storehouses, sheds, and huts, with a flagstaff and a single umbrella-looking tree, all of which, when abreast of the staff (north and south), make out clear of the western fall of a high grove of trees in the background. The town of Whydah lies a mile and a half on the northern shore of the lagoon, which, coming here to within half a mile of the beach, is only a quarter of a mile wide and 4 feet deep. Antonio Felix de Souzo is the trade-chief, and Messrs. Hutton, of London, have an agent here also to negotiate their palm-oil and ivory traffic. It is known as a determined

* See Commander Chamberlain, H.M.S. Britomart, Remarks, 1848.

† An iron house, belonging to Hutton and Co., has been erected on the beach, and is very remarkable.—Mr. Thomas Earl, 1851.

slave station, but, when it suits the policy of the natives, they can bring off supplies of live stock, vegetables, fruit, and, if desired, small casks of water. The surf is heavier here than to the westward ; and Whydah is considered to be more liable to intermittent fever than the other places on this windward arm of the Bight. Anchorage, convenient for canoe communication, can be taken up a mile off in 7 fathoms brown sand, with the highest storehouse bearing north ; right off which the edge of soundings lies 12 miles distant, dropping from 53 fathoms, black mud, with 13 fathoms at mid-distance. The discharge of the freshes at Great Popo gives a greenish tint to the sea that sometimes reaches to this place.*

Leaving Whydah, 7 fathoms, with an oozy bottom half-a-mile outside the heavy beating surf, may be carried for the next 10 miles to Jackin, another slave station. This interval of coast, running E. by S., is really straight from Whydah, but Jackin stands out slightly, and may be known by a remarkable mop-headed tree at the eastern extremity of some picturesque groups of palms ; it is called the *lone tree*, and makes out clearly westward of a grove in the back-ground when brought to bear north. No huts or canoes are kept in sight.

With a gentle flexure the same character of coast continues 10 miles to Appi, but there is nothing to distinguish this slave-embarking place, except a vista through the flat jungle on the shore, which opens on the bearing of N. by E. $\frac{1}{2}$ E. The edge of the bank recedes here to 17 miles from the beach ; dropping from 66 fathoms black mud.

310. Nine miles from Appi, with two small villages intervening and dividing the space nearly into thirds, is the next slaving station, called Porto Novo. A single hut at the water-mark, and a grove of table-topped trees, which appears through an opening in the fore-ground, and lies a mile inland, are the only marks for this place, which is notorious for shipping slaves, and for constantly having suspicious craft, under various colours, at anchor. There is good anchorage in 8 fathoms, sand and mud, at 2 miles S. by W. of the hut ; and the edge of soundings

*Jackin.**Appi.**Porto Novo.*

* The best mark for anchoring here is the English fort bearing about N.W. by N. In this position the canoes can fetch easily off and back again, the current taking them on the bows, whereas in any other position the canoe men will not come to a man of war.—Mr. Thomas Earl, 1851.

is 16 miles off on that bearing, deepening abruptly from 44 fathoms black mud.

Badagry.

311. With the same description of fore-ground, but with continuous groves of high trees in the distance, and occasional clumps in the intervening plain, the coast is nearly straight from Porto Novo for 18 miles to Badagry, the landing-place of which is rendered conspicuous by a couple of barrel-posts, a store shed, a flag-staff, and a whitewashed cottage ; besides a pyramidal clump of bushy trees immediately to the right, called Mount Badagry ; there are likewise two saddle-shaped clumps of trees, and two groups of beachmen's huts at 1 and 2 leagues to the westward.*

Mount Badagry.

Convenient anchorage may be taken in 8 fathoms, mud and shells, with the white cottage bearing N. by E. about a mile. The signal for a canoe will be promptly obeyed here, and every attention paid to applications for stock and refreshments. Even the officers' clothes will be washed, and sundry other civilities offered through the kindness of the missionaries, who have great influence in the town, which stands on the inner side of the lagoon at the distance of two-thirds of a mile from the landing-place, and out of sight of either the anchorage or beach. The lagoon is a third of a mile wide and 4 fathoms deep, and the intervening ridge of sand is also a third of a mile across.

Messrs. Hutton have another English trading agent here who is always ready to render any acceptable service to his countrymen, at least whenever the surf permits communication with the anchorage. Badagry is so far civilized as to be exempted from the catalogue of slave-shipping stations, thanks to the laudable efforts of the missionaries.

Soozoo.

The coast line from Badagry presents the same character and soundings, with one village and some rows of salt pans, as far as Soozoo, which is a slave station, and may be recognized by its half-dozen huts, as well as a single mop-head tree, and a grove in the back-ground, out of which tops a couple of umbrella-looking palms as shown in the sketch. (Chart, sheet 16, Porto Novo to Jaboo ; scale, quarter of an inch to a mile.)

* Two iron houses have been erected at Badagry,—one, belonging to Hutton and Co., stands on the beach, and is very remarkable. The other stands on the north side of the Lagoon, and belongs to Foster and Co. ; this house is not so conspicuous.—Mr. Thomas Earl, H.M.S. " Harlequin," 1851.

312. From Soozoo the coast line trends about E.S.E. $\frac{1}{2}$ E., gently curving both in and out, for 24 miles to the opening of Lagos, the eastern point of which lies in latitude $6^{\circ} 26' 20''$ N.; longitude $3^{\circ} 26' 12''$ E.

The first half of the distance from Soozoo to Lagos is very flat and naked, having but few trees and no huts; but the eastern half shows four villages, each prettily surrounded by nodding palms, which stand out in relief from the densely-wooded back-ground that rises from the margin of the lagoon.

Lagos is the first permanent break in the coast-line to the east-*Lagos.*

ward of Cape St. Paul; and through it the periodic accumulation of the freshes in the lagoons finds a vent to the sea, and produces against the surf a struggle of no ordinary kind upon the bar. As there is, however, a rise of 5 or 6 feet at the full and change of the moon, so there are occasions on which an attempt to enter that singular estuary might reasonably be made; and in the dry season of December, January, and February, with frequent success. But even then, a vessel of more than 5 feet *Bar.* draught should not risk it, nor ever, without the precaution of employing a whale-boat or canoe to ascertain and buoy the best channel through its fluctuating bar. A tide-gauge should also be placed in the smooth water within, so that the instant of the maximum rise of the tide might be indicated by signal. The bar is least accessible at other periods of the year, when the swollen outfall would yield a greater depth, because it would be then met by the heavy ocean swell and rollers which break fearfully as far out as 3 fathoms water, on the radius of a mile from the middle of the entrance. The breadth of the channel from point to point is half a mile, and through it the lagoon pours out, about half-ebb, such a volume of surface scum, of a deep brown tint and of a sickening odour, as to spread over a sweep of 3 miles, the edge of which is marked by a well-defined margin as it rolls forward on the deep blue water of the offing. Vessels intending to communicate with the shore by means of a canoe, should *Channel of entrance.* anchor in 6 fathoms, sand and mud, about a mile from the beach and $1\frac{1}{2}$ miles to the eastward of the entrance; the eastern of two large inland trees bearing north and the outermost of the two flagstaffs on the eastern point bearing N.W. From thence the usual process of landing trade-goods is effected on the outer beach; they are then transported across the sea-board strip of *Anchorage.*

Appearance of Lagos. land which divides it from the eastern lagoon, near which the storehouses and agent's dwellings are located out of sight. No buildings are seen, nor is there any evidence of the immediate region being inhabited, except the two flagstaffs (on which are usually hoisted French and Portuguese colours) and two or three canoes lying on the eastern beach. The people are not much disposed to communicate with a cruiser, and but little attention is paid to his signals, for this place fully keeps up the character it has so long borne, of being a notorious slave station.

General features. The two low, bushy, and sandy points of the entrance, with distant woods in the perspective of the vista, the remarkable Big Tree shown in the chart and in the sketch, the two clumps of trees at 4 and at 5 miles to the eastward of the entrance, the East tree, the single palm, and the flagstaffs on the eastern point, form the distinguishing features of Lagos.

Soundings. In the offing, on a S.S.W. bearing, the edge of soundings lies 19 miles from the shore, dropping from 70 fathoms, black mud, to 200 at a single cast, with 29 fathoms and an occasional overfall of the freshes, at $9\frac{1}{2}$ miles.

Anchorage. To blockade Lagos, to watch at the same time the next slave station near the Quoin Clump at 7 miles to the eastward, to ride in easier water, and to keep out of the offensive discoloured freshes, anchor in 12 fathoms, with East tree bearing north.

Bringing the Quoin Clump E. $\frac{1}{4}$ N. will lead in 5 fathoms outside the bar of Lagos to and from the inshore anchorage.*

* The bar and the river Lagos were surveyed in January and February 1852, by Mr. Thomas Earl, H.M.S. "Harlequin." The following are his remarks:—"Should it be desirable to enter the river, you must wait your opportunity; this will be soon apparent (I speak of the fine season) by the innermost bank becoming dry; between this bank and the beach is the boat passage. Then wait till it is nearly covered again, when you will be sure of having the flood on the surface, when you can easily pull through the passage, keeping just outside the rollers and close to the beach, and passing within a few yards of Wilmot's Point. This is the best and only safe passage that can be constantly used (tide permitting) throughout the year.

"The deep passage is only used by boats and canoes during the dry season or in very fine weather. When the sea breeze blows strong, the sea breaks right across it; and when this is the case you must be very careful in attempting the inner or boat passage, which should not be done without local knowledge, for the danger of upsetting is great. During the dry or fine season, from November to the end of January, and sometimes February, there are numerous passages for boats between the sand banks at the mouth

313. The coast immediately eastward of Lagos resumes its usual characteristics. The first object of notice lies at 7 miles distance on the bearing of E.S.E. ; it is a village known as a slave station, and from its relative position with respect to the quoin-shaped clump of trees $1\frac{3}{4}$ miles to the N.W. of it, is called the Quoin Village.

Quoin Village.

From the Quoin Village the shore is nearly straight, and presents nothing to view but a ridge of dense jungle for 12 miles on an E.S.E. trend, when a group of palms in a fan-like array, and then several scattered trees, with one intermediate village, leads at $7\frac{1}{2}$ miles, to the next slave station, called Jacknah, *Jacknah.* a place showing but half a dozen huts in a grove of palms. Jacknah is the northernmost spot of the whole Bight of Benin, the windward arm of which begins there to recede to the southward ; and after passing two small collections of huts leads on a course of E.S.E. $\frac{3}{4}$ E., 6 miles, to Palma village.

314. Palma may be identified by its frontage of five huts with *Palma.* palm-trees, at equal distances, at the right-hand gable of each of the four eastern huts ; and by three remarkable palm-trees a quarter of a mile to the eastward of the village, the middle

of the river which can be used with safety. Within the river the rise of the tide in the fine season is not more than one foot; during the rains the river is swollen (so I am informed) to nearly three feet. When the ebb makes, the rush is so great that large masses of the banks are swept away, sometimes carrying men and cattle with them. The river Ogo flows through the town of Abbeo Kuta, and reaches the sea through this outlet ; it is navigable for large boats to within 30 miles of Abbeo Kuta ; its stream there flows over large stones and through sand-banks. Canoes visiting Abbeo Kuta are hauled over these banks into the deep water in the town itself.

" The Victoria Lagoon (so named by me) runs from east to west, nearly parallel to the sea beach, and for 8 or 10 miles from its mouth in the river Lagos has a depth of 18 to 20 feet ; then there are several sand-banks, which form a complete barrier to any vessel drawing more than 3 feet. I partially examined this lagoon as far as the town of Porto Novo, a distance of about 60 miles, and found that after passing these sands the bottom was clean in the centre, with a uniform depth of 18 to 20 feet up to the town. West of the sand-banks the water is perfectly fresh, but not wholesome. Fish abounds : the mullet frequently weighs 3 or 4 pounds ; oysters and other shell fish are excellent and plentiful. The outer or sea bar has 12 feet water on it, but is not always practicable, as the rollers frequently break and extend to the beach, covering the whole passage with one mass of foam.

" The ebb makes down about three hours beneath the surface while the tide is running strong into the river. The flood makes but is not percep-

tree being half the height of the other two, and the whole group standing out in strong relief.

Of course all these remarks, here and elsewhere, about trees and huts, apply only to the present time ; a few years may make a thorough change in all such small details, but where there are no conspicuous objects to check or assist the ship's reckoning, and where an ill-defined horizon may not admit of satisfactory observations for the longitude, there is really no other resource. It is true that the intelligent seaman cannot well make any mistake if he keeps the chart before him, if he never runs by night, if he counts the villages, and if he constantly refers to the patent log, which ought to be boomed out a-beam. But let it be remembered that he may have to hasten in from the offing to one of these 17 slave-stations on some sudden information, and then how vexatious to find himself, for want of these minute characteristics, anchored off the wrong place, by 10 or 15 miles, beyond which he can command no view of that low hazy coast !*

Avons Deep. Off Palma will be found an extraordinary cleft in the bank of soundings called the Avons Deep, which, if crossed at night or in thick weather, and mistaken for the edge of the bank, may lead into fatal error. On the other hand that very curious

tide till within an hour or an hour and a half of high water ; then it runs with great rapidity, as much as a boat can pull against.

"A vessel intending to enter this river should first anchor in 7 or 8 fathoms a mile from the beach, with the western Big Tree bearing N.N.W. so as to overlook the passage ; then place a buoy close under the outer roller to mark the entrance, for there is no object on shore for a leading mark. Having entered the passage, keep close to the outer or weather roller, and so continue gradually keeping more to the northward.

"After passing Beecroft Point keep the western shore close aboard until the water shoals to 18 feet, then haul over to Point Wilmot on the eastern shore, and continue up the river on that side. Take care in crossing over to allow for the tide.

"Lagos was attacked by the British forces in December 1851, the king dethroned, and another set up with whom a treaty was made for the abolition of the slave trade. Since then legal trade has flourished, and the influence of the Abbeo Kuta missionaries has increased. A British consul also has been appointed, so that it may be hoped that this worst stronghold of the slave trade is about to become a scene of better things."

* Close to the beach at Palma a large trade-house built of bamboo has been erected. A little to the eastward there are 8 or 10 conical shaped trees—there are no such others along the whole coast—these are good marks for identifying Palma.—Mr. Thomas Earl, 1851.

dip will give a correct departure and become a useful guide to those who rely upon their *lead* as well as on the *look-out*.

315. From Palma the average direction of the coast line, is E.S.E. for 36 miles to the termination of the sandy beach ; the first 21 miles showing a dark undulating profile of bushy fore-ground and a distant and paler wall of grove-trees, with which it makes a striking contrast as the vessel moves along. The next 9 miles of coast is very flat, though bushy, and with no back-ground groves ; but the remaining 6 miles resumes the back as well as fore-ground features. A four-hut village is on the shore 3 miles eastward of Palma ; a single hut stands 6 miles farther ; and then at three miles beyond that, and altogether $11\frac{1}{2}$ miles from Palma, is the first of three remarkable vistas, with its village and cluster of palm-trees called Jaboo. These vistas, or lagoon valves, lie 5 and 13 miles apart, and unfold only when abreast of them ; they are each about a quarter of a mile wide at the beach-mark, but their length is lost in the perspective, as they cross both the beach and the island of Curamo at right angles.

Pursuing the coast about S.E. by $\frac{1}{2}$ E. we pass a straggling village at $2\frac{1}{2}$ miles from the last vista ; next a single hut at $2\frac{1}{2}$ miles farther ; and then another hut and flagstaff at $2\frac{1}{4}$ miles more, which brings us to Odi Vista, or the last of the three.

Jaboo Vista.

Odi Vista.

Five miles to the eastward of that vista stands the village of Odi with its two conspicuous palm-trees ; and a quarter of a mile farther an abrupt and remarkable change occurs in the complexion of the coast ; the beach altering at once from sand to mud ; and the dry-soil palm and brushwood being succeeded by the swampy mangrove. Thus far a vessel may fearlessly run along the coast at the distance of a mile, except at the projecting bar of Lagos, but after passing Odi Vista, muddy shallows of 3 or 4 fathoms will be found within $2\frac{1}{2}$ miles of the shore ; and the coast for 6 miles beyond the village becomes a dreary mud-flat ; no back-ground trees there give effect to those that are scattered along the margin of the sea ; and the surf which is seen breaking a full mile off shore is no longer heard. This terminus of the sandy beach is a striking feature in the navigation of the bight, and lies in $6^{\circ} 20' 0''$ N., and $4^{\circ} 31' 45''$ E. (Sheet 17, Jabo to R. Forcados.)

Odi.

Town. 316. With the change in the nature of the shore its direction likewise changes to the southward, and flats also of five fathoms stretch 5 miles off shore. At the southern end of the 6 miles of mud-flat, and of the tall mangroves, two little openings, like vistas into the lagoon, may be observed ; the shore then assumes a somewhat firmer character, and is interspersed with clumps of trees and scattered huts, as far as the group of villages called Town. From the coast it is slightly hollowed, but its general trend is S.E. by S., 27 miles to the mouth of the Benin River.

Benin River. 317. The northern point of the mouth of the Benin forms a well-defined elbow, while on the southern side it is only an obtuse curve ; but from abreast of the former, the opposite shores take a parallel direction for 4 miles, about N.E. $\frac{3}{4}$ E. and $1\frac{1}{2}$ miles apart. Both of them are flat and swampy, but inhabited. There is a trade from this river in palm-oil and ivory, which employs about a dozen merchant vessels in the year, and the agents for which manage to exist amidst the surrounding pestilence and refractory *trade-men*. The palm-oil factory is on Factory Point, which is steep-to, carrying 10 feet water up to the factory jetty. This point is 4 miles up on the southern shore, and $1\frac{1}{2}$ miles above the village called Obobi ; besides which there are three villages on the north shore, one of them, Fish Town, standing just opposite to the factory ; and on the round of the south point stands a fifth village, called Salt Town. From abreast of Salt Town the bar springs with heavy breakers which extend for 2 miles, and likewise a shelf of sand and mud of half a mile in breadth.

Hospital ship. The north shore is bold, having 3 and 6 fathoms within a cable and a half of its margin. Close to that side, and opposite the jetty, an old merchant vessel is stationed as an hospital for such Europeans as cannot be retained in their languishing state, with safety or convenience to others at the factory, or on board the ships outside the bar. She also serves as a refuge for any boat's crew, who, through temerity or stress of weather, have to remain during the night in this baneful atmosphere, wherein, if the malaria should be escaped, a frenzied state of excitement, the forerunner of fever, is almost certainly produced by the combined effects of *prickly heat* and *mosquito bites* ; the latter generally ulcerating in 24 hours. It is never justi-

fiable to remain inside the bar after sunset : the trading agents may endure it from habit and from their precautionary contrivances, but even they are to be pitied. It is a fortunate dispensation that the bars of all the rivers on this coast present such an impediment to a free intercourse with passing vessels, which otherwise would be lured by the ample and tranquil waters of these several fine inlets into the wholesale destruction of health and often of life. It is bad enough for the poor traders who sometimes have to lie for months together outside the bar of the Benin, though not less than 6 miles from the river mouth.

On the actual bar-ridge of sand which encloses the Benin, there are generally only 9 feet of water, and both of its wings are so shallow and covered with such furious breakers as to preclude any approach to within 2 miles of either point ; but at nearly midway between those breaking spits there is a gully or channel, of a mile in breadth and about three-quarters of a mile across the bar, where 12 feet will be found at low water of spring tides ; and which, with a spring-tide rise of 7 feet, would, in a tranquil sea, afford a 19 feet depth at high water. But in that region, where an incessant ocean swell causes an undulation that gives the stern-post a send of 11 or 12 feet, no craft of more than 8 or 9 feet draught ought to attempt the bar ; and even then the state of the sea should be well considered, as it sometimes unexpectedly breaks, and with overwhelming force, from the arrival of an inopportune roller. Ships have been lightened and rashly taken into the baffling turbulence of this bar, where in one send they have lost the rudder and sustained a broken back ; though sometimes a successive sea has fortunately thrown them into the smooth estuary, where the crew have saved themselves in the boats. It has indeed happened that a vessel, impelled by tide and swell, has been carried over the bar without touching, and then, after discharging her cargo and taking in a small portion of a return cargo, got out to her original anchorage to receive the rest of it by lighters. Some silly persons, however, have been tempted to load as deep as when inward borne, and so were necessarily wrecked in trying to get out. The roadstead, then, is the obvious position for all trading voyagers to adopt ; and there the agents and natives will receive or

Benin Bar.

Dangers of the bar.

Benin Roads.

deliver a cargo in local craft, aided if you can by a small steamer. In this road much rolling and pitching must be expected, but it is good holding ground ; and the most convenient position will be found in $4\frac{1}{2}$ fathoms black mud, with the north point N.E. by E., which line of bearing will lead over the deepest part of the bar. This anchorage is 3 miles outside the bar, and $5\frac{1}{2}$ miles from the river's mouth. The lower 4-miles reach of the river will appear right open, and up the centre of that reach there are 3, 4, and 5 fathoms until abreast of the factory, for which craft or boats should steer, upon an E.N.E. course, as soon as the shoalest part of the bar is crossed.

Tides.

It is high water here on full and change of the moon at 4h. 30m. ; the spring rises 7 feet, the flood runs but 3 hours at 2 knots, and the ebb as much as $9\frac{1}{2}$ hours at 3 knots ; the discoloured water discharges itself over a range of a 9 miles' radius from the mouth of the river, and the edge of soundings lies 29 miles off, due west, dropping from 95 fathoms black mud to no bottom with 150 fathoms.

*Escardos River.**To enter.**Tides.*

318. From Salt Town the coast-line bends round to about S.S.E. for 10 miles ; it is everywhere thickly wooded, but shows out some remarkable clusters of fantastically-shaped trees, some resembling the letter Y, while others have received the names of the Ship-tree, the Giraffe-tree, and the Tower-tree. On the narrow sandy beach, the swell breaks but languidly after rolling in across the 5 fathoms flat, which extends 5 or 6 miles off shore. We then come to the funnel-shaped opening of the River Escardos, which, unlike that of the Benin, has its southern point the best defined. Heavy breakers outlie this point for 3 miles to the N.W., and at first sight appear to join those from the opposite point, but there is an occasional space at one-fourth of the distance from the latter, where 8 feet water may be found, but too precarious and uncertain to be safely used. At present indeed there is no object for running such a risk, but should any rational enterprise ever induce some small vessel to enter this river, let her cross the bar with the north point E. by S., and then rounding that point closely, keep well off the southern side.

It is high water on full and change of the moon at 4h. 27m., with a rise of 5 feet. The discoloured water travels 6 miles seaward.

319. The heavy breakers which outlie the south point of Escardos, range on a S. $\frac{3}{4}$ E. trend, at 2 and 4 miles off shore, and join the bar of the river Forcados at the distance of 11 miles ; but the coast-line betwixt the mouths of the two rivers lies about S.S.E.

These heavy breakers do not continue all the way into the Forcados river, but stop short at a circular knoll of sand of $1\frac{1}{4}$ miles diameter, the centre of which is a mile off the main land and just half way between the rivers. From this knoll heavy breakers stretch off W.S.W., about $1\frac{1}{2}$ miles, and from them the bar of Forcados may be said to spring. This bar is a mile broad, and 3 miles in length, from the breakers off the knoll to those which project 4 miles from the south point of the river at a right angle to the coast-line. It carries 13 feet at low water, and from its great length between spit and spit, as well as from the narrowness of its ridge from 3 fathoms to 3 fathoms, Forcados may be considered the most accessible estuary of any on this coast, with a noble sound of smooth water 5 fathoms deep immediately within the bar ; and though the treacherous disposition of the natives prevents all trading intercourse there at present, yet small craft of 10 feet draught might avail themselves of that smooth water to caulk top-sides, refit rigging, &c., always providing they are well armed.

The fairway-course over the bar is with the centre of the opening E.S.E. High water takes place, at full and change, at 4h. 22m.; spring tides rise 5 feet ; the flood stream runs 3 hours at 2 knots ; the ebb $9\frac{1}{3}$ hours at 3 knots, propelling the discoloured water 13 miles seaward. Its mouth is $1\frac{3}{4}$ miles wide, and the bar lies $4\frac{1}{2}$ miles outside of the north elbow of the entrance.

The water is smooth along the margin of the coast to the south-eastward of the sand-knoll ; and a considerable village, with a number of large canoes on the narrow sandy beach, will be seen as the knoll is brought to the northward of east.

The bank of soundings extends 30 miles from the mouth of Forcados, deepening at once from 90 fathoms black mud to 180 sand. The 5 fathoms belt of coasting soundings, which reaches 7 miles out of Forcados, closes the shore to within 4 miles a little to the southward.

320. The coast to the southward of the Forcados has the same monotonous features as that to the northward ; a dense forest and a tangled jungle rising from a narrow sandy beach on which the surf but feebly breaks. In the whole interval between that river and the Dodo, there is no sign of habitation, no huts, no canoes, and no back-ground, until, on opening the River Ramos the receding plain and its thick forests are perceptible. No columns of smoke are to be seen by day, nor fires by night to give animation to its gloomy and forbidding aspect ; an aspect, however, which is quite in keeping with the character of its treacherous and murderous inhabitants. In that river in April 1846, H.M.S. Avon lost two most zealous and promising young officers, Henry Pennington and Oziah A. Winstanley, who were there surprised and barbarously murdered.

Ramos River.

321. The opening breadth of the Ramos is but half a mile between its points, which are well defined, and a dome-looking tree makes out the back-ground between them when on the line of direction, E.S.E. $\frac{1}{2}$ E., which leads into the very limited channel over the bar. The distance of this opening from Forcados is 13 miles : the intermediate shore lying S. $\frac{1}{2}$ W., and nearly straight. (Sheet 18, R. Forcados to R. Niger.)

A belt of heavy breakers occupies a sweep of $2\frac{1}{2}$ miles in front of the Ramos, but leaving occasionally in the middle a smooth space of a third of a mile in width. This part of the bar is a mile across, with 9 feet at low water, and therefore subject to a dangerous send of the swell. Inside of the points, the estuary is straight-sided and steep-to for a couple of miles, with 3, 5, and 7 fathoms smooth water.

Tides.

The tidal stream is $2\frac{1}{2}$ knots on the $9\frac{1}{3}$ hours ebb, and $1\frac{1}{2}$ knots on the 3 hours flood, which flows on full and change of the moon at 4h. 20m.

Murder Spit.

A sward and sandy spit, which may well be called Murder Spit, stretches a mile seaward of the northern point, and a village stands near the water-mark three quarters of a mile within the south point. Should it be necessary to visit this river, the bar is most tranquil in the dry season, and may be crossed as above stated in the best water, and the first reach passed through by bringing the dome-tree in the centre of the opening, and steering for it on the bearing of E.S.E. $\frac{1}{2}$ E.

The best anchorage outside the bar will be likewise found on this bearing in 5 fathoms black mud, at 3 miles off the bar and 5 miles from the river mouth.

322. From the Ramos the coast maintains the same repulsive appearance, and the same straight course of S. $\frac{1}{2}$ W. for 18 miles further, where another river issues through an oblique opening with an island in its mouth. This river, the Dodo, is *Dodo River.* only three quarters of a mile wide in its lower reach, though the opening in the shore at its mouth appears to be nearly 3 miles.

Walker Island, so named after the officer who first landed on it from the Avon, occupies a quarter of the opening, and is thickly wooded at its eastern angle. All access to this river is apparently denied, by the ceaseless foam which spreads for 3 miles right and left of the island ; and for 1 $\frac{1}{2}$ miles to seaward. Should, however, any object lead to a boat expedition into this *Entrance.* uninviting place, an opening in the breakers may be sought in the dry season close over on the northern side, of a third of a mile wide and 8 feet deep, by bringing the river-reach open to the northward of the island, and on the bearing of S.S.E. $\frac{1}{4}$ E. ; wait, however, for the last hour of the flood on spring tides, *Caution.* when it flows on full and change at 4h. 17m., and rises 5 feet ; and look out too for the bar seas as you approach a low point which projects half a mile right out (west) from the northern elbow of the entrance : and look out also for the troublesome and dangerous natives, who can, like those in the Ramos, launch out from the creeks in large numbers, armed with muskets, cane-knives, and hatchets : their pretence for coming being at first to offer dried fish, and perhaps a couple of slaves as a feeler.

The anchorage to be taken up for the purpose of despatching *Anchorage.* the boats, should be in 4 fathoms black mud, with a distant arched tree in one with the northern extremity of the trees on Walker Island, bearing E.S.E.

The 5 fathoms flat extends 3 $\frac{1}{2}$ miles outside of the island, and 2 miles outside the bar-breakers. The discoloured waters of this river, like those of the Ramos, travel 7 miles into the offing.

The ebb stream sets forth from the bar and the flood south, *Tides* and the current generally south about a knot. The edge of the bank is 26 miles off shore, 92 fathoms black mud.

323. From the Dodo southward the coast is of the same featureless character, but bends nearly two points more to the eastward.

Pennington River.

The 5 fathoms margin of muddy bottom is $3\frac{1}{4}$ miles off shore, as far as a small opening called Pennington River, in memory of the officer of the Avon who was the first to penetrate its bar. It opens to view on a S.E. by E. bearing, and is a third of a mile wide, with 6 fathoms water a mile within the points, but has only 6 feet depth upon the bar, which spreads over an area of $1\frac{1}{2}$ miles. A narrow passage between heavy and dangerous breakers will be found upon the above bearing.

Middleton River.

324. Pursuing the same coast-trend of S. by E. $\frac{1}{4}$ E. for 14 miles farther, we are led to the River Middleton, which was so called after the zealous and able assistant-surveyor of the Avon, and which from the offing has the appearance of a wide-mouthed estuary, with an island stretching across its entrance, and leaving channels of equal breadth on either side. But the southern opening, only giving vent to a superabundant outfall of freshes, is not a real channel, and being faced with impassable breakers, is named in the chart False Entrance. Those breakers apparently sweep round the northern entrance, also in a semi-circle of two miles' radius, and it is through them and over a bar-flat of sand, of $1\frac{1}{4}$ miles reach, with as little as 6 feet at low water, that any attempt to enter the river can be made. Steer for the north point when bearing E.N.E. $\frac{1}{4}$ E., during the last hour of the flood, and in the tranquil period of the dry season a good whale-boat may thread her way into this desolate place; inside 6 fathoms water and a lake-like surface will be found for a mile, in an E. by N. direction, from whence it branches into dark mangrove recesses, N.E. and S.

Tides.

The tide rises 5 feet, and flows, on full and change, 4h. 15m.

The 5 fathoms shelf of muddy bottom, extends 3 miles off the main, and $1\frac{1}{2}$ miles outside the bar; the edge of the bank of soundings is 30 miles off shore, and the discoloured reflux ranges about 4 miles to seaward.

Blind Creek.

325. At 3 miles to the southward of that false entrance, there is another inaccessible opening, called Blind Creek, of a quarter of a mile in width, and from which breakers project nearly a mile.

From Blind Creek the coast-line trends a little more easterly, but with the same mangrove-looking shore, and the same quality of soundings, until, at 7 miles distance, on the bearing of S.E. by S., two apparent river entrances, called the Winstanley Outfalls, appear. They are a mile apart, and both barred by most furious breakers, which are occasioned by the outpouring of the rivers combating with the ocean swell, and discharging discoloured water over a range of 4 miles.

*Winstanley
Outfalls.*

326. After 8 miles more of the same dull mangrove shore, on the bearing of S.E. $\frac{1}{2}$ S. we come to the Sengana branch of the Niger, thus making, with the Benin, ten river openings in the western face of this great alluvial projection of the shore. The Sengana is, however, so choked up at its orifice by a sandbank in the centre, and by the turbulent breakers which reach a mile out, that although presenting a rather inviting appearance at first sight, it is not accessible. The Avon's boats did indeed contrive, by patiently watching for a favourable interval of the surf, to effect a landing on the outer beach, just to the northward of the northern point. By crossing the point, a peep at the tranquil sheet of water within was obtained ; but the apparent disposition of the natives would have rendered any farther examination of the place at that time imprudent.

*Sengana
Branch.*

The 5 fathoms shelf of mud, and the range of discoloured water, extend about 4 miles off.

327. At 6 miles distance from the Sengana opening, 110 miles from the entrance of the Benin River, and 319 miles on the direct bearing of S.E. $\frac{3}{4}$ E. (S. $73^{\circ} 25'$ E. true), from Cape St. Paul, we come to the mouth of the river Niger, or as it *Niger River.* has at various times been named, the Nun, the Quorra, or Kowara ; its eastern point lying in latitude $4^{\circ} 16' 21''$ N., and longitude $6^{\circ} 4' 34''$ E. From the outer bend of the bar, *Palm Point.* Point, on the eastern side of the entrance, bears N.N.E. $\frac{3}{4}$ E. $2\frac{1}{2}$ miles, and is the fairway line for crossing the bar.

The bar-breakers spring out S.S.W. almost at right angles to the coast-line, and then curving sharply to the eastward, from a sack-like belt of sand and breakers of half a mile in breadth, on which there are 13 feet at low-water, and this depth extends for half a mile right and left of the above-mentioned leading line. This leading line was well marked at the period of the Avon's survey by a remarkable dome-

shaped tree which stands on the eastern shore of the river, about $1\frac{1}{2}$ miles within Palm Point, and which, when brought in one with that point, bore exactly N.N.E. $\frac{3}{4}$ E.

Tides.

The tide rises here 6 feet on ordinary springs, and flows till 8 minutes past 4 o'clock on the full and change of the moon, so that it will be easy to select the most favourable moment for entering this river; but it should be recollectcd that, at the driest and best season, a heavy swell fearfully undulates, if not breaks upon the bar. Once over it, borrow towards the eastern shore, as a sandy spit projects from the island, half a mile into the fairway, just opposite to and W.N.W. of Palm Point. After passing them you will find a clean smooth water reach of a mile wide, with 5, 6, and 7 fathoms for 3 miles up, and carrying 4 fathoms to within 2 cables' lengths of the eastern shore.

Tides.

The ebb-stream runs $9\frac{1}{3}$ hours at 3 knots, and the flood, 3 hours at 2 knots.

Accassa.

It should be remarked, that, although the mouth of the Niger is stated to be one mile wide, yet its two points are $1\frac{1}{4}$ miles apart, by reason of the eastern one stretching out three quarters of a mile seaward of the other. A canoe village stands on the margin of the eastern shore a mile within Palm Point, and the chief's village, Accassa, a mile inland of that; but the inhabitants do not like to come outside the bar, and when they visit a vessel in the river, it is to beg or steal, and that to a degree which makes it difficult to avoid a quarrel. No refreshments are to be expected here any more than at the other rivers in the Bight that we have described.

No produce.

Trading vessels find no market here, and the only evidence of its having ever been the resort of Europeans are the grave-mounds on the islet in the entrance. The shores are thickly wooded, and are so near upon the level of the river, as to be little better than a vast pestilential swamp; and therefore, the chief service of this description, may perhaps be the deterring others from visiting it wantonly. Good holding ground in 5 fathoms will be found at $1\frac{1}{2}$ miles outside the bar on the leading mark line, and with Sengana bearing N. by W. $\frac{3}{4}$ W. The discoloured efflux of this river ranges 4 miles outside of the bar, and the edge of the bank of soundings lies 33 miles out, in

Anchorage.

95 fathoms black mud ; but 20 fathoms fine dark sand will be found at mid-distance.

328. From the eastern point of the Niger, the mouth of the *Bento River*. River Bento bears about E.S.E. $\frac{1}{2}$ E. 9 miles ; and the general coast line of that vast delta, which projects 70 miles to the southward of a line drawn from the head of the Bight of Benin to that of Biafra, sweeps round in a curve of 60 miles radius ; and, although it presents no very distinct or salient termination, yet its most projecting segment, which contains the mouth of the Niger, retains its old Portuguese name of Cape Formosa, *Cape Formosa*, and forms the eastern limits of the Bight of Benin.

CHAPTER IX.

GENERAL REMARKS ON THE BIGHT OF BENIN.

Limits of the Bight of Benin. 329. THE Bight of Benin is embraced by Cape St. Paul to the westward, in latitude $5^{\circ} 47' 36''$ N., longitude $0^{\circ} 55' 43''$ E.; and by Cape Formosa to the eastward, in latitude $4^{\circ} 16' 21''$ N., longitude $6^{\circ} 4' 34''$ E., which bears from the former S. $73^{\circ} 25'$ E. (or nearly S.E. $\frac{3}{4}$ E.), 319 miles, from which chord line, at two-thirds of the distance from Cape St. Paul, the curve of the shore recedes 95 miles to the northward.

Windward, or western arm of the Bight.

The length of the shore is about 380 miles; a long monotonous range of sandy beach, and so uniformly low and flat, that not a single inland eminence is visible from the offing; indeed the elevation of the ground above the sea in some places is scarcely four feet, and seldom exceeds ten; even the most prominent clumps of trees do not rise to more than 60 feet, so that every object on the shore dips at a 12 miles offing; jungle, with groups of trees, cover the whole of the windward, or western division, of the Bight, but interspersed with numerous villages and straggling beachmen's huts; and through this long portion of the coast, there is but one permanent opening or outfall for the lagoon waters. That permanent opening is at Lagos, but there are several partial breaks in the sand-hills, through which the lagoon pours out its swollen floods during the wet season, that is, from July to October; and these breaks produce straight vistas, which look like river openings, but across which the sand is heaped up so compactly, as to preclude any outfall the rest of the year.

South-eastern or leeward arm.

330. The distinctive character of the leeward, or south-eastern horn of the Bight, is a continuous dense mass of trees, no longer fringed by a bright sandy beach, but growing up from the high-water margin of the sea; and 2ndly, the many rivers and creeks which cross the Delta of the river Niger. This part of the coast shows very few groups of huts, or remarkable objects by which a vessel may identify her position; but it contains thirteen of those river mouths, and each of them possesses sufficient diversity of feature to be recognized. Much vegetable matter and

silt are discharged at every ebb-tide, which discolour the blue ocean water with a filthy scum of a brown colour, and a sickening smell, for the distance of several miles. The unceasing deposit from this scum accounts for the much increased extent of the bank of soundings, the average breadth of which is here upwards of 30 miles, while off the windward coast, it is but 16 ; and abreast of Cape St. Paul we find 200 fathoms with no bottom, dropping from 16 fathoms at only 6 miles off shore.

331. This broad bank of soundings, however, affords a *Bank of Soundings.* useful warning to the mariner, if he will use his lead on a part of the coast which is skirted with muddy shallows to such a distance that the surf is not heard, while along the western portion, you may stand in to 6 fathoms, or a third of a mile from the beach. To leeward also the land is frequently obscured by exhalation (locally termed *smokes*), which, in the *Dry Seasons.* dry season, especially from November to May, prevail throughout the Bight indeed ; but with less perplexing effects on the windward coast, where the bright sandy beach, with its fringe of foaming surf, is easily seen through the haze, or makes itself heard in time to warn him of his proximity to the shore. Even there, however, the lead should always assist the look-out, *Caution.* lest he should unexpectedly find himself within the baffling influence of the swell and rollers ; the sagging leeway effect of which should be allowed for at the rate of half a knot an hour, *Rate of leeway.* when shaping courses at night, or in hazy weather by day. Let it be borne in mind that the hurling action of the swell, at the back of the surf, will sometimes seize a vessel at three-quarters of a mile off the beach, when ground tackle would little avail, should she miss stays. Even steamers ought not to shoal the soundings below 8 fathoms, for unless their paddle-noise is occasionally stopped, the surf-roar will not be heard in time, though audible long before the foam can be seen on foggy mornings. If there be no particular motive for hugging the *Rule for an shore at night along the windward coast, the best rule for preserving a 4 or 5 miles offing,* *offing.*

Along the leeward arm of the Bight, that depth will imply *When to anchor.* an offing of 9 miles, which is desirable, not only on account of its shallows, but from the heavy ground swell that is perpetually rolling in ; and therefore, if the land be not visible,

and if with the vessel's head off shore, she is decreasing her soundings below 12 fathoms, she should be anchored ; and the more especially if supposed to be opposite any of the river entrances, as the in-draught of the flood tide extends 2 or 3 leagues.

*Free from
shoals or gales.*

332. Amid the anxieties of the commander of a ship in such a deleterious climate, and on such an inhospitable coast, without a light-house, or a single harbour of refuge, it will be no small relief to be assured, that, throughout the Bight of Benin, there does not exist a detached shoal of any description, and that no lasting gale of wind ever occurs. She has only to be kept clear of the actual beach on the windward side of the Bight, as well as off the river bars on the leeward side, which common vigilance can ensure ; and to be prepared for the tornadoes which periodically will assail her with more or less fury ; and which otherwise may dismast, or throw her on her beam ends. These visitations, however, give ample warning, they are of brief duration, and always blow off shore ;* but they may take place during any period of the twenty-four hours from the beginning of March to the end of June. Thunder precedes the gathering arch of clouds, which darkens the horizon in the direction from whence the burst of wind and rain is to come. The barometer indeed gives no indication of their approach, and maintains its uniform quiescent state, which in this region varies but a line above or below 30 inches throughout the year ; but the thermometer soon falls 5° as the tornado sweeps along, and continues to indicate its cooling effects for some hours after, which, with the acceptable supply of rain-water, somewhat requites the anxious bustle upon deck, and the terrible increase of heat below, as all scuttles are necessarily closed.

Tornadoes.

333. The tornado begins by agitating the surface of the sea, so as to be seen by day, or heard by night ; rain sometimes accom-

* Commander Wood, of H.M.S. Hound, in his remarks on tornadoes in the Bight of Benin, in 1847, says "they generally commence from the S.E., and draw round E. and N.E. ; but this is by no means certain, as we have had them blowing right on shore. One tornado, that occurred at night, began at E. and drew round to S. ; and we have had them from the westward also. When the sea breeze is strongest, the tornadoes are found to be most violent. There are likewise hard squalls from the S.E., which have not the characters of the tornado, the black arch and vivid lightning gathering to leeward, but are not the less dangerous." At Quitta the tornado often blows so as to make it a lee shore.

panies the first furious burst, and is driven with such force as to render it impossible to look to windward, or discern anything beyond a few yards' distance, and its noise so overcomes the loudest voice, that all orders necessary to meet the exigency (particularly if it assumes a whirlwind character) must be conveyed by messengers.

It is important to health, that all those who must keep the deck during a tornado, should be in the blanket dress of frock and trowsers : for, notwithstanding the high state of the temperature, the beating of the rain numbs the limbs at the time, and a chill follows. It is likewise desirable that, on throwing off those wet clothes, an allowance of hot coffee should be issued ; and if several stoves could be lighted below for a couple of hours after each tornado, and still better on every day during the rainy season, it would conduce much to the general health of the crew.

In order to sustain the first impression of a severe tornado, *Under Sail.* it is in general prudent to bear up from the indicated quarter—to furl all, including the awnings, to strike top-gallant masts, get up the lightning conductors, and boom them well out, bar in all ports and scuttles, and to hoist the fore-staysail, for it is essential that the ship does not receive the outburst on her broadside.

If at anchor (the best condition in which to receive a tornado), *At anchor.* furl the awnings until the wind has expended itself, and keep the fore-staysail ready, to cast her in case of parting ; then loose and slope the awnings directly the wind ceases, in order to carry the succeeding deluge of rain to the water-ways, and to shelter the people and the hatchways. During this lull, and while the wind is resuming its usual moderate force from the offing (a period sometimes of three hours), the perpendicular stream of rain is attended by rapid peals of crashing thunder, *Thunder.* which jars the glass and bells throughout the ship with scarcely an interval between them, and by vivid forked lightning, *Lightning.* which seems to proceed from all quarters at once.

334. In April and May, tornadoes may be expected at intervals of 48 hours, and twice sometimes on the same day. In June and July they occur almost daily or nightly, but in a milder form as respects wind, until, in August and September, the weather resolves itself into almost continuous rain, with strong *Rainy Season.*

*Healthy Sea-
son.*

sea breezes and heavy swell from the S.W. In October it gradually clears up, leaving November, December, January, and February, the most settled and healthy months of the year. During these four months, the temperature scarcely varies night or day, above or below the limits of 85° and 90° in the shade. It is at this season, the exhalations for about three hours after sunrise prevail, and completely shroud the coast in what African navigators call the smokes, which give way to the sea breeze about 10 A.M.

*Health of the
Crew.*

335. Exposure to the sun's rays between 10 A.M. and 3 P.M. should be studiously avoided, and to go without a hat in the sun is actually dangerous, especially so is sleeping in the night dews; and therefore, whenever practicable, awning-shelter should be provided for the men throughout the 24 hours. The coolest period of the year is June, when also strong double-reef- topsail breezes prevail from the S.W., which, with the thermometer down to 77°, give life and elasticity to the exhausted cruiser.

*Temperature of
the Sea.*

336. The temperature of the sea is always within a degree, more or less, of that of the air for the first 10 or 15 fathoms of depth, but at 20 fathoms it is cooled 2°, at 30 fathoms 10°, at 40 fathoms 17°, at 50 fathoms 20°, and at 100 fathoms it is 25° less than that of the surface.

Soundings.

337. The soundings along the windward half of the Bight may be classed in the following zones :—at a mile outside the beach-surf there are 8 fathoms, fine light brown sand, as far eastward as Palma ; at a parallel distance of a league, 10 fathoms with the same bottom ; and at 2 leagues, 12 fathoms over similar sand. There the sand merges into olive and black mud with broken shells, and the water rapidly deepens to 200 fathoms at the extreme end of the bank, which, though only 7 miles outside of Cape St. Paul, is 18 miles outside of the Avons Deep.

Avons Deep.

338. The Avons Deep, 30 miles to the eastward of Lagos, is the only remarkable submarine feature in the Bight of Benin. It is a wedge-like gap in the shelf of mud which outlines the coast and enters nearly at right angles to the bank, where its mouth is 10 miles wide, and from whence it narrows to a point at 6½ miles from the beach-huts at Palma. The sides of this extraordinary cleft are almost perpendicular ; deepening at a cast from 40 fathoms to 133, black mud, and then to 200, on bottom. Its middle is intersected by the meridian of 4° East and by

the parallel of $6^{\circ} 10'$ North, which place it 186 miles N. 82° E. (true) from Cape St. Paul, and 186 miles N. 48° W. from Cape Formoso ; that is, in the very depth of the Bight where the two edges of the bank meet in an angle of 120° . There is no overfall, nor anything on the surface to indicate the existence of this singular conformation at the bottom ; nor is there any aperture in the adjacent coast, or any apparent change in its character. The prudent navigator, however, should be upon his guard when in its neighbourhood, for if he should be approaching the shore at nightfall, or in hazy weather, in dependence on his lead, and intending to be close in at daylight, he might be fatally deceived by a cast with no bottom in this deep, imagining himself outside the bank instead of within 6 or 7 miles of the beach. In some cases, however, this cleft in the bank, like the Bottomless Pit (in $3^{\circ} 57'$ West longitude), may be of material service to the seaman at night by giving him a fresh departure.

339. The prevailing winds are from S.W. and West in this region ; and the current so uniformly runs in the same direction along the western part of the Bight that both tend to sweep a vessel towards its south-eastern shores ; and the influence of the weather-tide is so weak as scarcely to require any attention in working to windward.* *Winds, and Current.*

340. The beach indicates a 4 or 5 feet vertical range of the tide, but the surf is so heavy and incessant on the shore, and the swell so constant in the offing, as to preclude actual measurement of the rise and fall, or so timing them as to arrive at any accurate results ; but along the leeward coast, where the water smoothens to a lake-like surface within the bar surfs, the tidal establishment at each river mouth has been obtained ; and is shown on the accompanying charts. The navigator should therefore compute the periods, when he is to allow for the influence of either ebb or flood, which generally extends to a radius of 2 and 3 lengues from the mouth of those rivers ; and the more especially if he intends to send a boat across any one of the bars.

* In working to windward in the Bight of Benin, stand off on the starboard tack during the day, and in-shore on the port tack by night, tacking should the wind veer towards the west. Expect a mile an hour easterly current as a general rule.—Mr. Thomas Earl, 1851.

Between the mouths of the Benin and Niger the average time of high water at full and change is at 4h. 18m.; and the rise and fall 5 feet; a vertical range so small that, even when at its maximum, it merges into the heavy undulation outside the bars.

Current.

341. With the exception of the tidal influence off the opening of Lagos, there is only the current to affect a vessel's easting and westing along the westward division of the Bight, and that seldom exceeds three-quarters of a knot for 10 months of the year. This current rounds Cape St. Paul on a north-easterly set, parallel to the sweep of coast-line for about 25 miles; it then gradually assumes the E.S.E. trend of the coast for the next 180 miles, until abreast of the termination of the sandy beach near Odi, and without any in-shore eddy. From March to June this easterly current brings loose patches of that remarkable and only sea-weed seen in the Bight, called Sargasso or Gulf-weed, or *Fucus natans*, at intervals of 8, 10, and 12 miles. Its delicate stalks, currant-sized leaves, and light brown berries, may be seen in parallel lines drifting from the S. W.; the patches averaging $1\frac{1}{2}$ miles long by a quarter of a mile wide. They extend to 25 miles off the shore and as far to leeward as Lagos; and if they can be identified with the fields of sargasso which travel along the gulf stream, then have we another link in the prodigious length of the chain.

Harmattan.

342. During the Harmattan or easterly wind, which arrives in December and January, the current yields to its impulse and sets with increased velocity, about 1 knot; but even during the westerly winds, when they have freshened up for three or four days, and thus pressed a superabundance of ocean water against the leeward arm of the Bight, a reaction takes place, and a western current will be produced for twelve, and sometimes twenty-four hours. In such circumstances, if a cruiser be intent on keeping her position at night, it will be prudent to drop a boat in order to ascertain the state of the current, and always to make a free use of her stream anchor.

Attention to these fluctuations of the current-set is especially necessary along the leeward arm of the Bight when within the influence of the river tides, which are felt about 10 miles from their mouths, or when in 12 fathoms water, mud and broken shells. The force of the flood stream, however, is very much less

Currents.

than that of the ebb, as might naturally be expected from the *Tides*, vast outfalls of the freshes being added to the discharge of tidal water, and the combined effects of which diverge right and left, over a radius of 3 leagues, at a velocity of 3 knots at the mouth and 1 knot in the offing ; and at half ebb, bring forth a volume of turbid, brownish water, bearing up-rooted trees, bushes, leaves, and jungle. Frequently this discharge consists of a scum of nearly 3 feet deep, resembling the lees of an oil cask, and from its levity, and deep brown colour, so contrasts with the ocean-blue, as to present a remarkably defined and frothy margin, with all the appearance of a shoal. On approaching it a stranger would be much inclined to tack or anchor, but if he consults his lead he will be saved much unnecessary trouble ; and when he crosses its edge he will find that, though its onward motion would sweep away a boat, it has no effect on a vessel of any draught.

Scum, emitted with the ebb.

This discoloration of the water, during the rainy season, extends sometimes as far westward as Jackin and Whydah, and to a 10-miles offing : while in-shore, the volumes that pour out of the lagoons give the sea a light green-tint. This lagoon *Lagoon out-falls.* water breaks out through periodical openings in the beach, beginning with the month of April, when the tornado rains have swollen the lagoons, and so continuing throughout the rainy season until October. These outfalls from Great Popo to the lagoon of Cradoo are all, except the permanent opening of Lagos, dammed up by the surf-packed sand, between October and April ; leaving no other indication of their places than the remarkable vistas through the wooded belt which everywhere lines the shore. In no case, however, do they afford accessible channels into the lagoons, for when most charged with water they aggravate the usual dangerous surf ; and when the furious freshes decrease, the sea replaces the sandy beach so as not to leave a furrow between the vista and the surf.

343. It may here be remarked that excellent holding-ground *Anchorage.* is afforded throughout the whole Bight, from close in-shore out to 15 fathoms, which will be found about 6 miles off the windward coast, and 12 miles off the leeward coast. The bottom is throughout stiff black mud with broken shells, and is well calculated for working the stream anchor, but with a bower cable, as the stream chain might not sustain the demand of the

irregular swell which, at intervals of an hour or so, assumes the turbulence of the roller. Towards the edge of soundings however, from 15 and 20 fathoms, the bottom is composed of so soft a compound of olive-coloured mud, broken shells, and decayed vegetable matter, as to require a bower anchor. In-shore, although the lead-arming may present nothing but the sand which covers the bottom to the depth of a few inches, yet from Cape St. Paul to the Avon's Deep, the anchor will instantly bury itself up to the crown in mud.

Anchorage.

344. Anchoring anywhere in the Bight of Benin must be prompted by necessity and not from any hopes of tranquillity ; for as the ship tends obliquely to the swell, more or less according to the strength of the current, so unceasing heavy rolling is the sure result. If requisite, however, for the purposes of transporting stores between ship and ship, choose a four-leagues offing at least ; and, if consistent with the purpose in view, choose the weather arm of the Bight, and as far westward towards Cape St. Paul as possible : for its waters there are less turbulent, and its climate less uncomfortable. In fact, several dry sunny days together, during the rainy season, may be enjoyed to the westward of Lagos, while it is incessantly raining to leeward. The principal trading positions in the Bight are Porto Seguro, Little Popo, Ahgwey, Whydah, and Badagry. On the leeward coast a few merchant vessels anchor outside the bar of the Benin River, where they sometimes wait for nine months treating for palm-oil, cask by cask ; and patiently enduring the caprice and dilatory ways of the natives, as well as the baneful exhalations of the adjacent jungles.

Jealousy of English Cruisers.

345. British merchant vessels are, however, naturally considered as being the channels of information to our anti-slave-trade cruisers, and therefore our mercantile resident agents experience at many of the towns along the coast all the obstructions which distrust, jealousy, and resentment can prompt ; and hence all commercial negotiations with the inhabitants are of a precarious nature. On the other hand, wherever the habits of fair and legitimate trading have happily obtained a footing, there does that detestable traffic languish ; and at one place indeed, Badagry, it is not merely disavowed, but disallowed by the chiefs. Much has been achieved by the pious endeavours of our devoted missionaries, who labour inces-

Missionaries.

santly in demonstrating to the natives the permanent advantages of a fair trading intercourse ; and much more might be expected if they were spread more uniformly and more numerously along this coast. A more distinct knowledge of the extent, *Lagoons.* breadth, and depth of the long lagoons which lie parallel to the shore would be very useful in our efforts to link the commercial interests of the chiefs with each other. The facility of their navigation is fully proved by the uninterrupted regularity with which the courier, that one of our merchants at Cape Coast (Mr. Thomas Hutton) has established under a local treaty of 1845, pursues his fortnightly journeys by canoe and on foot, with his letter-bag to and from that factory as far as Whydah, alone and unmolested. The distance is 235 miles, and it might easily be made to extend to Badagry and Lagos, if the chiefs could be sure that good faith would be kept on our part, in strictly confining this privilege to commercial objects as stipulated, and not touching upon slave matters.

346. It should be borne in mind that, however practicable *Landing.* the surf may occasionally appear, nothing ought to induce an attempt to land in the ship's boats anywhere between Cape St. Paul and the termination of sandy beach at Odi, by other than local canoes, and even they require much skill and the assistance of extra hands to receive and haul them up as well as to launch them. The signal gun, with ensign at the fore, will be at once understood, though, if not opportune in regard to some slaving transaction going on, it may be very tardily obeyed. There is no accelerating their movements, but sooner or later a couple, perhaps, of stout canoes with a dozen paddles *Canoes.* each will dart off, cheering you with a beautifully-timed though unintelligible song, and accounting for their delay by pointing to their collection of refreshments, which being disposed of the padroon undertakes your landing at a dollar a trip. The passenger part of these canoes is at their bow, where 3 or 4 feet of housing is formed to keep out the sea when thrusting her through the surf in the operation of launching ; and it affords the only chance of keeping anything dry. More than two persons cannot well occupy this space, and other passengers must sit on the thwarts, between the double-banked paddlers, who themselves sit obliquely on the gunwale with their faces towards the bow. The padroon steers with a paddle. In

disembarking the passenger may sit or stand in the fore part of the canoe, in order to be ready to jump out, lest he be swept out by the succeeding surge; and there is always a group of active fellows at the water's edge ready to assist him as the spoon-shaped prow runs up to the beach as far as the wave expends itself.

Embarking.

When embarking he will find the canoe ready with her prow outwards, and hauled up her length on the beach; and he will now take his seat at the narrow uncovered part abaft; while the crew of athletic naked fellows are ranged on either side, reaching down to her thwarts so as to lift her out of her sand-dock, as well as to drag her down, which they begin to do with the assistance of the beach-men, as soon as the second of the three heavy waves has broken. The steersman now watches with experienced eye for the following swell, when with energetic exclamations and gestures she is floated off on the expended wave; each man jumping into his place with his paddle, and so simultaneously and expertly as not to overbalance her. Her head is then dexterously kept to the sea, but not propelled forward until the steersman again gives the word; and sometimes a long interval is occupied in watching the swell and in moving her a little backward or forward, or perhaps sideways, which they cleverly do by a sculling motion of the paddles without altering the direction of her head, which must be kept towards the surf. Many anxious minutes are passed in this way, till the state of the outer swell seems all at once to justify a dash, and then, with mighty urging at one moment and expertly checking her at another, the buoyant little shell is passed from dell to ridge, and then down again into the trough of the sea at a frightful angle of inclination; sometimes, as she meets the topping wall-like crest, her prow nearly pointing to the zenith. Let the stranger then hold on well to prevent his being pitched from his seat, and maintain a perfect composure, although from the jargon-clamour fore and aft, he might well imagine that there was a difference amongst the men in those pregnant moments when decision is so absolutely necessary to safety. But in a few minutes the struggle is over—the boat is outside the breakers—the paddles are laid across the thigh of each man—all now breathe freely—the water that has been just shipped is baled out—and to

Canoes.

the vehement and discordant jabbering succeeds the merry laugh and jokes at the expense of "Massa Cappun" whom they are sure they have astonished, if not alarmed. He is now invited to the prow end, every man presenting his arm, as a safe hand-rail, while he steps from thwart to thwart. She then steers for the ship under some joyous song, in which frequent reference is made to the "Cappun" and the "bot-a-rum," and by which time and vigour are given to the paddles, while, at certain turns of the tune, they are made to flourish over the head. Though clear of the surf she is still in a heavy swell, and produces a flopping and fatiguing confusion as the flat-shaped prow falls on the surface ; and it is therefore always prudent to have the ship's boat waiting at the back of the surf. Two other precautions may be here recommended : no stranger should walk on shore in the heat of the day without an umbrella to guard against the fierce rays of the sun ; and also to head-up in a small cask such things as it may be desirable to pass dry through the surf.

Very few accidents occur to these canoes when freighted with passengers only ; but with cargo they often capsize—especially when embarking with such top-weight as casks of palm oil and oxen, or in landing with crates and dry goods in cases.

347. It would never answer, in point of expense or of time, *Watering*: for cruisers to wood and water anywhere in the Bight; nor can there be any occasion to do so, as Fernando Po and Princes Island are within three days' run to the southward. In cases of necessity, however, the natives will bring off water at a dollar a puncheon, and merchant vessels generally so provide themselves.

With attention, an ample quantity of rain water may be *Rain-water*. saved during two thirds of the year, for cooking and washing. It would be horrible to be on short allowance of water in this climate, but much of the thirst which it induces may be counteracted, and the health improved, by the frequent use of *Shower-bath*, the shower bath of sea water.

348. Abundance of stock, and a moderate supply of vegetables, can be obtained at several stations on the windward coast, viz., Awey, Quitta, Elmina, Chica, Little Popo, Whydah, and Badagry. The three first-named places are the most con-

venient, as the water is generally smoother, from the vicinity of Cape St. Paul, and the people are more anxious to get rid of their stock than at the populous and slave-intriguing stations to the eastward; but at Badagry they are so well disposed, thanks to the propitiatory influence of our missionaries, and of Messrs. Hutton's agents, that nothing but the troublesome surf in July and August is allowed to restrict the supplies that may be desired. Here, too, that important element of health and comfort, washing one's linen, can be always accomplished. Fernando Po is the next convenient place for that purpose, and at Quitta they attempt it, but not so well. Excellent yams are to be had at Fernando Po at 1*d.* per lb.; and if white-washed and stowed in a dry tank, will keep for a couple of months. The production of yams should be encouraged, and unsparingly allowed to ship's companies as a substitute for biscuit, which becomes speedily injured in that climate.

Washing Clothes.

Yams.

Dollars.

Cowries.

The Spanish dollar is better understood round the Bight of Benin than any other coin, and bills can be negotiated at Badagry through the merchants' agents at a certain discount; but the *cowrie* shell forms the usual currency, and is decidedly advantageous to the voyager in point of exchange, though heavy and bulky. The scale of valuation, as understood by the natives, is, that 40 cowries of all sizes make one *string*; 50 strings are equal to one *head* (the common name for a dollar); 20 heads are equal to an ounce of gold dust; and an ounce of gold dust represents 4*l.* currency. Thus a dollar is worth 2,000 shells, of which it would be most tedious to count any large number, if that were required by the natives; but on showing them that a 5 lbs. weight is equivalent to an average 2,000 cowries, they will take the rest by weight. They are fond of a little bartering in kind also; and the cruiser will find ready exchange for empty bottles at four eggs for a bottle, or a large pine for four bottles, or for anything at the rate of 3*d.* per bottle.

Cowries are employed by the natives for other purposes besides money; they perforate the apex of the shell and string them like beads for bracelets, armlets, and necklaces; which are adopted by both sexes, and are connected with their mystic rites of *fetish*.

The average price of cowries in England is about 60*l.* per ton, and they realize fully 80*l.* on the coast.

Small bullocks, weighing 125 or 130 lbs. may be purchased at 9 dollars a head ; sheep of about 25 lbs. at 3 dollars ; goats of 30 lbs. at 2½ dollars ; pigs of 40 lbs. at 2½ dollars ; fowls a dollar per dozen ; ducks also a dollar ; turkeys from a half to 1 dollar each ; eggs a shilling per dozen.

Vegetables average 2½*d.* per lb., and consist of yams, pumpkins, sweet potatoes, small onions, and pepper-pods.

The fruits in the Bight consist of cocoa-nuts 20 for a dollar; pines at 3*d.* and 6*d.* each, according to their size ; limes 300 for a dollar ; oranges 6*d.* a dozen ; and water melons 3*d.* to 6*d.* each ; bananas are rare.

The fresh meat, when issued, costs about 4*d.* per lb., and as bullocks, sheep, goats, and pigs cannot always be brought off alive, on account of the surf, but as poultry can, it will prove a most acceptable substitute at the rate of two small fowls in lieu of a pound of salt meat. And if there be not poultry enough for a general issue on that scale to the ship's company, an excellent mess may be produced in the coppers by stewing down a number of fowls along with vegetables, and adding a small quantity of preserved meats.

Fish cannot easily be procured, though the lagoons produce carp and prodigiously large prawns, as it would be tainted before it could reach the ship. Indeed, the climate disposes meat as well as fish to rapid decomposition, requiring to be cooked or salted within three hours of being killed, and salting is seldom successful. The only fish that will take the hook, and that in uncertain and small quantities, is the sucking-fish (*Remora*), about the size of a dog-fish ; numbers may be seen early in the morning, when at anchor, playing about 4 feet below the surface.

The Bight of Benin is visited in January by great numbers of the sea-blubber or medusæ ; in May, by the flying-fish ; in June, by porpoises, bonettas, and dolphins ; in July and August by the black whale, and generally in pairs ; in August also by young sharks ; and sucking-fish then appear in greater abundance than during the other months. The full-grown voracious shark abounds at all seasons ; and it is not meant that the other families above mentioned do actually confine

*Bullocks,
Sheep, &c.*

Vegetables.

Fruit.

Fish.

*Migratory
Visitors.*

their visits to those specific periods, but that they are then considerably more numerous.

The animalcules which occasion the luminous appearance of the sea are equally prevalent throughout the year, but they are most remarkable during the dolphin season, darting in myriads obliquely from the sides of the ship, and across her bows and wake ; the trains of phosphoric light which they produce a few feet below the surface appear then to be more than ordinarily brilliant.

Sea-birds.

The sea-birds that frequent the Bight are few in variety, and not more remarkable in one season than another. The common full-sized sea-gull is found in the openings of the rivers as well as in the offing ; flocks of sea-plover and stray boobies are occasionally seen ; and half-a-dozen sea-swallows, or petrels, are ever skimming in the ship's wake. In June, however, a multitude of white-breasted birds of the crane species congregate on that four miles interval of flat, muddy shore, which terminates the sandy coast near Odi, and in such close order as to give it all the appearance of a white stony beach ; until approached within musket range, when they simultaneously rise like a cloud, and discover to the startled spectator a black muddy strand.

Insects.

When lying within a league of the windward shore of the Bight, at night especially, the land-breeze often brings off a few stray butterflies ; but the most curious entomological visitor to the *Avon*, at night, was the giraffe cricket ; which was so called by her captain from the shape of its head, long neck, and attitude. It has six wings, the outer ones resembling the sheath wings of a beetle ; those beneath of a very delicate light green ; and the undermost pair of fine network. Its height is 5 inches, and it has six long legs, two of which are close under the throat and appear to be employed in its defence. How far it is inclined to molest mankind was not ascertained ; but it was secured by the hand, without stinging. Happily mosquitoes, the torment of man on shore, do not infest ships in the offing ; the poor seaman has, however, quite enough to endure in the swarms of cockroaches, ants, and weevils, with now and then a vile centipede.

While running along the coast, at the distance of a mile or two, the natives may be seen carrying calabashes of sea-water

from the beach, to mounds raised above the ground, and in which the water by exposure to the sun is evaporated, and salt obtained for curing the lagoon fish.

349. The structure of the coast from Cape St. Paul to Cape Formoso* may be described in two words—sand and mud; sand of a bright yellow tint along the western two-thirds of the interval, and sand and mud along the eastern side of the Bight as well as on the margin of all the estuaries. Whatever gentle undulations may be discerned on the shore, they will prove to be only sand-hills thinly coated with a loamy crust, but thickly clothed with weeds and brushwood; and no part of them is more than 10 feet above low-water level, or 5 feet above high water. Here and there single palms and cocoas gracefully rise from the edge of the water-mark; or a group of beach-men's huts with their bleached conical roofs stand in relief to the dense thicket, or jungle back-ground; while, on the receding plain, clusters of stately trees, when seen from the distance of a couple of leagues, convey the appearance of green-clad cliffs. At an offing of four leagues the whole scene dips below the horizon; so that, in fact, throughout the Bight of Benin, from cape to cape, there is not one object which at that distance could enable a vessel to reach in to any particular station, or identify any one position. Until familiarized with the appearance of every place, one station can be recognized only by tracking it from another, assisted by the chart, and by the local sketches there given.

General character of the Coast.

* More properly Cabo Formozo, that is, Beautiful Cape, a name given by the Portuguese discoverers.

CHAPTER X.

FROM CAPE FORMOSO TO SUELLABA POINT.

Cape Formoso. CAPE FORMOSO is the western boundary of the Bight of Biafra. The line of coast from it to the Cameroons shore, where the coast turns abruptly to the southward, trends E. by S. $\frac{1}{2}$ S. nearly, for 200 miles. It is intersected by several rivers, of which the more important are, the Bonny, the New and Old Calabar, and the Rio del Rey. They are, however, generally difficult of access, each having a bar at its outlet.

The Cape, which is low and wooded, marks the extreme southern extension of the Delta of the Quorra, Kowára, or Niger. It lies in $4^{\circ} 14\frac{1}{2}'$ N. latitude, $6^{\circ} 11'$ E. longitude. The variation of the compass in 1836 was 20° W. High water at full and change, $4^{\text{h}} 8^{\text{m}}$. Rise of tide at springs, about 6 feet.*

350. Nine miles from Palm Point, and 4 miles from Cape Formoso, the eastern limit of the mouth of the Quorra, is the Rio Bento or St. John, called also very commonly the Brass. Its entrance lies between two bluff capes, the eastern of which is crowned by a clump of trees having the appearance of an arch.† The following directions for crossing the bar in a boat are given by Captain W. Tucker, of H.M.S. Wolverine, in 1840: Being $1\frac{1}{2}$ miles off shore, bring the west point of the river to bear N.N.E., and steer N.E., or bring the east point of the river to bear N.E. by E., and continue that course until the river opens out clear; then steer about north directly up the river. The flood on and near the bar sets N.N.W., the ebb S.S.E. If without a compass that will point correctly (too often the case in a boat), keep the east point a little on the port bow until the river is quite open, then proceed as above. It is advisable

River Bento.

The Bar.

Tides.

* See Admiralty chart of the West Coast of Africa, Sheet 19, Cape Formoso to Fernando Po, by Captains Owen, Vidal, and Allen, R.N. 1836-42. Scale, $5\frac{1}{2}$ inches to a degree. [No. 1357.]

† Nautical Magazine, 1840, p. 78.

that boats should go in at the last of the flood towards high water, or with the first of the ebb, but at no other time during spring tides.

In 1838 the boats of H.M.S. Viper ascended this river for about 60 miles, and found it 400 yards wide, and 9 or 10 fathoms deep, its banks fringed with impenetrable* mangrove. On returning they kept along the western shore with a current running 7 knots, and when near the mouth passed into an opening, which, after following for 14 miles, communicated with the Quorra 12 miles from the sea, near which they had passed, for the surf was distinctly heard.†

351. The river San Nicolas, 11 miles to the east of the Río San Bento, is separated from it by a slightly elevated wooded land, the coast line of which boldly convexes seawards. Its eastern bank is terminated by a large rounded point. The western bank is higher, and slopes as a point towards the sea. The two points are very distinct with the mouth of the river open and bearing N.N.W., but as it soon bends to the N.N.E. it appears from the offing as if closed by distant wooded land. The coast eastward is low, covered with mangrove, and bordered by a sandy beach.‡

352. The entrance of the Santa Barbara, 10 miles farther Santa Barbara. to the eastward, opens out on a N.N.E. bearing. Its banks are thickly wooded. The western point is perpendicular; the eastern forms a slight slope, having a small part broken into steps.

As far as this river a vessel may run without fear at a distance of 3 or 4 miles from the coast in 4 and 5 fathoms; but at the same distance from the land abreast of the river San Bartholomeo, about 7 miles south-eastward of the Santa Barbara, there is a bank thrown up off the entrance, on to which a vessel is likely to be carried rapidly by the flood tide. It is the more necessary to be on the guard against this bank, as the coast-line as far as the San Bartholomeo changes its direction rather more to the south-eastward after passing the Santa Barbara.

* This statement agrees with M'Queen's account of the Delta of the Niger. London, 1840.

† Mr. G. Norsworthy's Remark Book, 1838.

‡ Description Nautique des Côtes de l'Afrique Occidentale, par M. le Comte E. Bouët Willaumez, 1838–45. Paris, 1848, p. 146.

The western point of the San Bartholomeo is low and hardly distinguishable ; the entrance of the river does not open out until it bears north. The eastern point is higher and bluff. Within the river, the land appears low, wooded, and detached like an island. The shoal ground extends four miles from the entrance, outside which the depth is 3 and 4 fathoms.*

River Sombreiro.

353. The river Sombreiro lies 10 miles farther to the eastward ; it does not open out until its meridian is passed ; on its western point stands a clump of trees which at one time perhaps resembled a hat, whence most probably the name. It has a passage over its bar, but it is rendered dangerous by a considerable shoal off its mouth, on which a heavy sea breaks. This extends from $3\frac{1}{2}$ to $4\frac{1}{2}$ miles off shore, and is about a mile in length. The Barracouta came suddenly upon it without warning from the lead.† At five miles from the shore, and scarcely half a mile from the most violent part of the breakers, a depth of 2 fathoms was found in $4^{\circ} 20' N.$, $6^{\circ} 54\frac{1}{2}' E.$ A furious surf prevailed on the bar, which would apparently prohibit access at all times. The Sombreiro may be easily known by Fouche Point 7 miles to the eastward of it, on which are some detached lofty trees.

Shoal five miles from the land.

New Calabar, and Bonny.

Pilot indispensable.

354. Fouche Point forms the western limit of a large bay or estuary, into which the New Calabar and the Bonny or Obáne ‡ discharge their waters ; its eastern limit is Rough Corner Point.§ It is 7 miles wide, and encumbered with sand banks, between which are the channels leading to the rivers ; but from the constant changes in them, and the little depth of water, a pilot is indispensable. This duty is performed generally by the masters of the Liverpool merchant ships engaged in the palm oil trade, who are far better acquainted with the navigation and more trustworthy than the native pilots.

* Purdy's Ethiopic Directory, p. 361.

† Mr. Beecroft, Master H.M.S. *Barracouta*.

‡ Bonny is a corruption of the native name Obáne ; some of the natives also call this river Okulóma. See Kölle's *Africana Polyglotta*, with a map by Petermann. London, 1853.

§ See Admiralty plan of the Bonny and Calabar rivers by Captain Vidal and officers of the *Barracouta* in 1826. Scale, 1 inch to a mile. [No. 622.]

These latter are stationed on Ju-ju Point, a mile north of Rough Corner Point, and if it can be seen, the usual signal with a gun will be attended to ; or a boat may be sent up the river for one of the masters of the merchant ships ; the boat must not leave the ship later than 4 P.M.*

At no time of the year should a vessel anchor off the entrance in less than 7 fathoms, with Fouché Point North or N. $\frac{1}{2}$ W., and with not less than 50 fathoms of cable.†

355. The banks which cause an obstruction to the entrance of the New Calabar and Bonny Rivers are three : The Western, the Baleur, and the Portuguese Bank ; for the large sandy islet off Rough Corner, which is called Breakers' Islet cannot be counted as a bank, being always uncovered.‡

The western bank is connected to the Baleur by two sandy ridges, forming two bars, both of which must be passed to enter the narrow channel of the Bonny ; ships have gone through at half flood with not less than three fathoms on the bars, which are very rarely impracticable, the want of depth alone being the great obstacle. A vessel may also pass between the Baleur and Portuguese Banks, but the prevailing wind, S.W., would not admit of running through before the wind as in the first passage ; it is therefore chiefly used for going out.

There is a small narrow channel between Rough Corner Point and the Sandy Islet, named Portuguese Channel, used only by coasters.§

* Description Nautique, p. 148.

† In December 1853, buoys were placed to mark the edge of the bank. See p. 212.

‡ Messrs. Watts and Wylie, in March 1851, planted cocoa-nut trees on this islet.

§ Rough Corner forms a bluff when bearing from N.N.W. to N.N.E. ; when it bears more to the eastward Ju-ju Point opens ; this is a continuation of Rough Corner Point, and has one clump of trees on it.

From Rough Corner the thick wood extends along the coast to the eastward, but the land is best known with Rough Corner bearing N.N.E. standing in to 20 fathoms in latitude 4° 6' N., longitude 7° 6' E. Fouché Point on the west side of the entrance, forms a bluff on all points of view, and is thickly covered with lofty trees.

The breakers on the Baleur are generally visible at quarter ebb ; at high water, in fine weather, they may not be seen, therefore it is necessary to keep the lead going constantly when approaching with light winds, but with a sea on and blowing fresh they always show.—*Remarks by Lieutenant Roberts, H.M.S. Buzzard, 1836, on approaching from sea.*

The Bonny.

The edges of these banks are safe and marked by breakers ; the latter are no more to be feared than those on the great western bank. After passing the bar, the channel is a mile broad and from 9 to $10\frac{1}{2}$ fathoms deep, and leads between these two lines of breakers, into the Bonny River. The pilot on coming on board recommends weighing when the flood has well made, he then steers so as to make out the marks.

Marks for entering the river.

357. On opening the two banks of the Bonny, on the western side a rather salient point will be seen crowned with large trees, and situated 3 or 4 miles up, or within the river ; this is Peter Fortis Point. On the eastern bank of the river, close to the north of Rough Corner, is Ju-ju Point, where a creek of the same name falls in ; it is necessary, however, to have frequented this river to distinguish these marks, which are used by the pilots.

To keep in the narrow channel, and avoid the Baleur, bring Peter Fortis and Ju-ju Point about a sail's breadth open of each other, and steer a little more to the eastward to allow for the flood-tide, which runs N.W. over the western bank with great rapidity.

Outer bar.

This course which is about N.E. $\frac{1}{2}$ N., will lead over the outer bar in not less than $3\frac{3}{4}$ fathoms, with $5\frac{1}{4}$ fathoms directly afterwards in the hollow which intervenes between the two bars ; this hollow is not much more than a mile in length. The inner bar is then reached, taking care to keep the above-mentioned marks always on ; it has three feet less water over it than the first, there is also much less space around. Inside, the flood-tide divides, and runs to the N.E. into the Bonny River with great rapidity.

Inner bar.

Being over the inner bar, the vessel will be in the narrow channel already mentioned, bounded on the west by the breakers on the great western bank, and on the east by Breakers' Island. This narrow channel is a mile broad and 8 to 10 fathoms deep, and all that is to be feared on the edges of these banks is marked by the breakers.

The difficulties thus passed, and the vessel having reached the head of the breakers of the Sandy Islet, the pilot then opens Peter Fortis or Ju-ju Point, so as to keep at a short distance from the eastern bank of the river.

The anchorage for men-of-war is off the village of Bonny, *Anchorage*. in $6\frac{1}{2}$ fathoms outside the merchantmen. It is necessary to moor with open hawse to the eastward, in the event of a tornado.

358. The time of high water at full and change on the bar *Tides*. is 6 o'clock, and the rise of tide about 6 feet ; in the river the ebb stream runs an hour longer than the flood and a knot faster, or at the springs 3 or 4 knots.

The town of Bonny or Obáne contains about 6,000 people, *Town of Bonny*. but the country under the rule of the king and chiefs about 40,000.

The natives are exclusively devoted to the palm oil trade. To seek for that article they ascend the numerous creeks of the delta of the Niger for 40 or 50 miles in their large canoes. Provisions, poultry, meat, and food are scarce. The river *Provisions*. abounds in fish. Yams, kids, and dry fish constitute the food of the population, who, finding the trade in palm oil more lucrative than that in provisions, sell but little of the latter and at high prices. Lizards and crocodiles are the fetish gods of these idolatrous people. It is well not to offend by meddling with them.

Every possible precaution should be taken against fever, as it is rarely that a ship can fill up with palm oil in less than three or four months. She should, therefore, take in a quantity of salt at the Cape Verd Islands ; ship Kroumen on the Krou coast, and touch at Fernando Po to complete water and purchase provisions. Once in the river, the ship is roofed over, the oil casks landed, and the holds cleaned, fumigated, and whitewashed.

359. The Bonny and the New Calabar,* which meet in the *Bonny*. great estuary before mentioned, are branches of the delta of the Niger. The New Calabar has not so much water, and is *New Calabar*. not so much frequented as the Bonny ; however, it is equally resorted to by the trader in search of palm oil.

On leaving the Bonny river the pilots take the beginning *Leaving Bonny*. of the ebb to weigh, and work out against the S.W. wind which prevails. For the first four or five boards the ship

* See Admiralty Plan of the Bonny and New Calabar, by Captain Vidal and the Officers of the Barracouta, 1826. Scale, 1 inch to a mile. No. 622.

should not approach too close to the western bank, which is steep-to, and the lead will not give warning in time. Having worked through the narrow channel between the western bank and the Sandy Islet, and cleared the inner bar, anchor with Rough Corner bearing N.N.E., and wait for the following tide.

Anchorage. From this anchorage two passages, formed by a shifting sand called the Portuguese Bank, offer for going out to leeward of the Baleur ; that south of the bank, and consequently the most to windward, is called the Man-of-war Passage. It has on its bar $3\frac{1}{2}$ fathoms at half-flood, and $4\frac{1}{4}$ fathoms at high water. The leeward passage is called the Portuguese Channel, and has 3 feet less water on its bar.

Man-of-War Passage.

Portuguese Channel.

The pilots are more uncertain of their route on leaving the river than on entering, as they have only the breakers for a guide ; they send canoes a-head to sound, and their signals must be watched.

Channels vary. 360. Notwithstanding what has been stated, these directions are not to be depended upon, for in fact the channels vary after almost every rainy season.

Shoals buoyed. 361. In October 1853 the African Association of Liverpool and the African Screw Ship Company of London sent out five buoys to mark these channels ; these were laid down in January 1854 by Mr. F. Johnson, second master of H.M.S. "Antelope," and a chart showing their positions has been published at Liverpool.

Mr. Johnson's sailing directions for the river are as follows :—

Directions in January 1854. Bring the land of Peter Fortis well open of Ju-ju Point, bearing N.E. which will be just to the eastward of the west fair-way *Black Beacon Buoy* ; then stand in with this mark on, which will lead to the westward of the *Red Nun Buoy*, in 4 fathoms, off the west end of the Baleur Bank ; proceeding on the same bearing it will also clear the Rough Corner Spit, passing to the westward of the *Black Can Buoy* (in 8 fathoms) off that sand ; when abreast of this buoy, edge over a little towards Breaker Islands, as it is best to give the spit a good berth, as the tides set over it. When off the end of Breaker Islands, edge over to the eastern shore, and, keeping about one-third of a mile from it, stand up the river

to the town of Bonny, where is good anchorage in 11 fathoms mud.

Vessels wishing to remain outside for a pilot, or waiting for *Fairway Buoy*, a breeze, should bring up close to the Fair-way Buoy, in 5 fathoms, Fouché Point bearing N. b. E. $\frac{1}{4}$ E., and Rough Corner N.E. b. E. $\frac{1}{4}$ E., which will keep them well to windward of the channel.

The depth of water between the fair-way and the Red Nun Buoy, off the Baleur, is from 5 to $3\frac{1}{2}$ fathoms ; and from the Red Nun Buoy to abreast of the town of Bonny, $4\frac{1}{2}$, 6, 8, to 15 fathoms.

Sailing out of the Man-of-War Channel, when abreast of *Man-of-War Channel*. Breaker Islands, edge over towards Rough Corner Spit Buoy, giving it a good berth and leaving it on the left port-hand ; then steer S. b. E. $\frac{3}{4}$ E. to Five Fathom Hole, Black Beacon Buoy, which leave to port ; then steer S.S.E. $\frac{1}{2}$ E. for the East Fair-way Buoy (Black Nun) $3\frac{1}{2}$ fathoms. Vessels must always sail out at high water, and by following the above remarks for this channel will probably not have less than $4\frac{1}{2}$ fathoms.

From midway between the Rough Corner and Baleur Buoys a S.S.E. course will lead through the channel.

If bound to the New Calabar :—From the town of Bonny steer towards Ju-ju Point, and when abreast of it keep over for Breaker Islands until within a cable's length of the east end ; then steer N.N.W. for a gap in the trees, which will lead about a ship's length to the northward of the west end of the islands ; on this course there is from 3 to $2\frac{1}{2}$ fathoms. On arriving abreast of the west end, round the island, and keep away gently to the southward, bordering along the islands in $2\frac{1}{2}$ to $3\frac{1}{4}$ fathoms until Peter Fortis Point comes midway between them ; then edge over towards Fouché, keeping this bearing on until Rough Corner comes well open to the southward of the islands ; then steer for the western shore, when you will deepen the water from $3\frac{1}{2}$ to 4, 5, and $6\frac{1}{2}$ fathoms abreast of Fouché town ; then by keeping the western shore on board, you can run up to the town of Calabar with not less than $4\frac{1}{2}$ fathoms.

Notwithstanding the above-mentioned buoys, the liability of *A pilot indispensable.* these sands to shift is so great, that vessels bound to either of these rivers should anchor off the Fair-way Buoy as directed, and wait for a pilot.

Buoys should be replaced.

It would tend much to safety of navigation, and would be a great boon to the mariner, if the commodore on the station would send a steamer to examine the channels, and transmit to the Secretary of the Admiralty corrected positions of the buoys at the close of every rainy season, or in the month of October.

362. On leaving the Bonny to proceed to the eastward, the same low woody coast continues ; it is swampy, and covered with mangrove, palm, oak, and such trees as grow in brackish water. The fertile lands are several miles from the coast, and more elevated above the sea.*

363. Fifteen miles to the eastward of Rough Corner point is the river Antonio, or by corruption Andoney. The Barracouta anchored off this river in March 1826, in latitude $4^{\circ} 27' N.$, longitude $7^{\circ} 33' E.$, the entrance bearing N. by E. $2\frac{1}{2}$ miles. The mouth is nearly choked up with sand, which permits a passage for boats only. The Barracouta's pinnace crossed the bar.

Great care should be taken at all times when standing in for Antonio river, as the shoal ground extends 7 or 8 miles off the mouth, and the flood tide often throws a vessel in at the rate of 2 miles an hour ; but all danger may be avoided by paying attention to the lead. In general, from the river Sombreiro eastward, you may reckon to a short distance a mile off shore for every fathom of water you are in.†

From the Antonio the coast retains the same general features, and extends about E. by S. 58 miles to the Old Calabar river.

364. The entrance to the Old Calabar, or Kalaba and Oidne of the natives, lies between Tom Shots Point, on the west, and the East Head, about 10 miles apart. Fourteen miles S.E. from Tom Shots Point is Backasey Gap, which is very conspicuous, and will first attract attention from seaward in making the land to the eastward of the river. The opening is about one-third of a mile in width ; it is the entrance of a creek which communicates with the Backasey rivers.‡

365. In approaching the Old Calabar from the westward, great care must be taken, as there are several knolls, with not

* Description Nautique.

† Lieutenant Roberts, H.M.S. Buzzard, 1836.

‡ Mr. M. Heath, Master H.M.S. Favorite, 1848.

Approach from westward.

more than $2\frac{1}{2}$ fathoms on them, extending for upwards of 12 miles from the land. They are a considerable distance outside, or south of the extremity of the continuous line of breakers off the mouth of the river. Should a vessel which is not sure of her position find herself with hard bottom, it would be prudent to haul up to the S.E. and make the land about Backasey Gap, where a cross bearing with the East Head, if it can be seen, will place the ship nearly in her true position. The weather is generally so hazy that the mountain peaks cannot be seen, except after a tornado. On making Backasey Gap coming from the westward, do not bring it to bear anything to the east of N.E. by E., and that will clear the knolls before mentioned ; and when with the gap on that *Fair way*. bearing, in a depth of $3\frac{1}{2}$ or 4 fathoms, the ship will be in the fair way for running over the bar in from 3 to 4 fathoms.*

If the eastern side of the mouth of the river be made, the depth of $3\frac{1}{2}$ fathoms only will be met with very far off. This is the bank of mud and sand which projects from the east head of Backasey Gap ; and far to the S.E., even in this shallow water, the land may not be seen, causing doubt and *Shallow water*. uneasiness. Hence it is preferable to make the land from the southward, having first sighted Fernando Po.†

If at this point a tornado should threaten, it is best to *Tornado*. anchor until it blows over. On this coast they come from the S.E.‡

When the two umbrella trees on Tom Shots Point are *Tom Shots Point*. visible, steer north, and take care that the tide is not setting the ship to the westward over the shoals ; and should the bottom harden, haul to the eastward until it become soft.§

From abreast of Tom Shots Point, distant about $1\frac{1}{2}$ miles, steer N.N.E. on this course. The entrances of the Great and

* Mr. M. Heath, Master H.M.S. Favorite, 1848.

† Description Nautique, p. 152.

‡ Commander Murray, H.M.S. Favorite, 1848.

§ Being off Backasey Gap, bearing N.E. by E. in $3\frac{1}{2}$ or 4 fathoms water, steer N. by E. for Tom Shots Point, which, with the line of breakers extending seawards, will soon appear on the port bow. The least water found will be $3\frac{1}{2}$ fathoms, with the line of breakers to the westward. Should the water shoal with hard bottom, the ship is too far to the westward ; if with mud, too far to the eastward.

*Backasey
River.
Great Qua
River.*

Little Backasey rivers and the Little Qua river are passed to the eastward. The entrance of the Great Qua River is nearly ahead ; let it be kept rather on the starboard bow. The entrance of the Great Qua River is marked, by its eastern point showing as a green point sloping down to the water's edge. On approaching the Great Qua River, if the bottom becomes hard sand, the position will be on the flat of sand which has grown up between the two Qua Rivers. Then, if James' Island up the river on the western shore is open of Parrot Island lower down on the eastern side, the ship may alter course to the northward, as she will be clear of the hook extending from Tom Shots Point, and she will get into muddy soundings.

The sand flat has $2\frac{1}{2}$ fathoms on it in ordinary tides.

The ship will now have James' Island and Tobacco Land, which is above it and on the same side of the river, on the port bow.

Tobacco Land.

The Tobacco Land* has some trees of a very large growth, and appears like a bluff headland. When it bears N.N.W., just open of Parrot Island, the ship will be clear of the hook extending from Tom Shots Point. Keep Tobacco Land on that bearing, and steer for Parrot Island ; this course will lead over the Qua Flats in not less than 4 fathoms. The Qua Flats extend from Qua River to James' Island, and have a soft muddy bottom. As the ship approaches Parrot Island the water deepens. Keep along the inside within a quarter of a mile, until abreast of the northern end ; then steer about N.E. by N. for James' Island, approaching to within a cable's length of the mangrove trees. Advancing along the west side of James' Island, keep Parrot Island just open with it, which

James' Island.

conducts over the James' Flat† which has $16\frac{1}{2}$ feet low water spring tides, after which the water will deepen up to Seven Fathom Point on the left bank or eastern shore. At Seven Fathom Point keep close to the †mangrove ; and when the reach on the right hand or to N.E. opens, steer directly across the river for the tall trees on the north-western bank, which approach to within a cable's length, and keep that shore all the

* Mr. M. Heath, Master H.M.S. Favorite, 1848.

† Commander Strange, H.M.S. Archer, 1851.

way up to Henshawe Town, which, with the ships lying off it, *Henshawe Town.* will be in sight after passing Seven Fathom Point over to the north-western shore. When the ship reaches abreast of Henshawe Town, which is on the left bank or south-eastern shore, haul over towards Duke Town on the same shore : *Duke Town.* anchor well over on that side, for in the middle of the river are only 17 feet low water spring tides.

The river is navigable for ships* for a few miles higher up, but they never ascend higher than Duke Town, two miles above which, on the same bank, is Old Town. These three towns all stand on tolerable high ground. Two miles above Old Town, a creek on the right or western side leads to Creek Town, the residence of King Eyo, the great man of this country. It is about 7 miles above Duke Town by water, but not more than 3 in a straight line. A large palm oil trade is carried on in this river, and ships of 800 or 900 tons lie many months off Duke Town.

Old Town.
Creek Town.
King Eyo.

366. Missionaries of the Scottish United Presbyterian *Missionaries.* Church have been labouring here since about 1846 ; and have been very successful in combating with some of the darkest errors of paganism ; such as human sacrifices, which have now *Human sacrifices abandoned.* (1854) ceased, in consequence of promises obtained from the chiefs by direction of the British Government, and of the surveillance exercised by these devoted men. They have built comfortable houses in Duke Town and Creek Town, and established schools ; and they do not complain much of the climate, for several ladies, some born in England, and *Climate.* others in the West Indies, have resided here for two or three years at a time, only going over occasionally to Fernando Po for change of air.

The main stream of the river which a ship ascending to *Main stream of river.* Duke Town leaves before reaching Seven Fathom Point, continues above Tobacco Land to the N.W. under the name of the Cross River ; off the point of junction is Alligator Island, *Cross River.* between Tobacco Land and Seven Fathom Point ; care must *Alligator Island.* be taken not to mistake it for Tobacco Land when to the S.E. of Parrot Island.

* Commander Murray, H.M.S. Favorite, 1848.

Mr. Beecroft* in 1844 ascended the Cross River in the Ethiope steamer, for 140 miles from the sea, in a direction nearly north : he reached to within 40 miles of the extreme highest explored point of the Chadda, and he considered that the Cross River and the Chadda are each branches of the same river, the point of divergence probably existing at no great distance above or east of the highest spot ascended to, on the Chadda.

The Ethiope was stopped by a rapid which ran 7 knots, or $\frac{1}{2}$ knot more than her speed ; but Mr. Beecroft, passing up in a large canoe manned with Kroumen, soon came to less rapid water, and nothing but the decided hostility of the natives prevented him pushing his interesting discovery further.

The water at Duke Town is fresh but not fit for use ; there is a small watering place at Old Town.

Descending the river.

Ebb tide strong.

Shoal on left bank.

Caution.

367. Descending the river the same ground must be gone over as nearly as circumstances will permit ; if the wind be contrary, which it generally is, the ebb tide is strong enough for backing and filling where the channel is narrow. The south-eastern shore or left bank has a long hard shoal off it all the way from Henshawe Town to near Seven Fathom Point, and on the north-western shore opposite the point there is a shoal of mud with 10 or 11 feet on it, towards which the ebb out of the Cross River inclines to set a ship if she is not under command.

At the bar† the tide does not run more than a mile an hour during the dry season, setting towards Tom Shots Point and over the shoals to the westward : this requires particular attention in turning out with the ebb, or at any time with light winds.

The distance‡ from the southern end of the breakers to the S.E. end of Parrot Island is stated to be 22 miles : from the north end of Parrot Island to Seven Fathom Point 18 miles, from the same point to Duke Town 28 or 30 miles.

* Late H.M. Consul in Fernando Po, universally regretted as one of the most enterprising Central African explorers. He died at Sierra Leone in July 1854, when on the point of setting out to command the exploring expedition which has recently ascended the river Chadda.

† Mr. Heath, Master H.M.S. Favorite, 1848.

‡ Description Nautique, pp. 161-165.

The position of Duke Town is stated by Mr. Heath, master of *Duke Town*
H.M.S. Favorite, to be latitude $5^{\circ} 8'$ N., longitude $8^{\circ} 24'$ E. ; *uncertain*.
but by Commander Strange, of H.M.S. Archer, latitude
 $4^{\circ} 56'$ N., longitude $8^{\circ} 15'$ E.*

After being clear of the Old Calabar, and having passed *Backasey Gap to Rio del Rey.*
Backasey Gap, an E.S.E. course for 12 miles from the East
head along the bank extending off the peninsula of Backasey
brings a ship to the entrance of the Rio del Rey.

368. The Rio del Rey† is generally represented on the charts *Rio del Rey.*
as of considerable magnitude, which is in fact the impression
it naturally conveys on being approached ; but that which is
taken for the river is, in reality, but an open shallow bay,
with several creeks branching from it, and one larger than
the rest $4\frac{1}{2}$ miles wide at its entrance, but rapidly decreasing
into a narrow channel. The bay is formed on the eastern side
by the lofty Cameroons mountain. The shores are thickly
peopled ; the inhabitants appear to live principally upon fish,
as we saw from 40 to 50 canoes every morning depositing the
produce of their nightly labours on the beach. The villages *Villages.*
are large, and, unlike those further south, are built on the
skirts of the bay, and exposed to view from the water. This
feeling of security is produced by vessels seldom seeking
slaves in the river ; but still these people are a timid race, and
we had great difficulty in holding any intercourse with them.
They would frequently come off in their canoes full of men,
and a chief seated in each ; but when near the ship they
would suddenly turn round, and paddle to the shore in the
greatest consternation.

369. At a few miles to the westward of the Rio del Rey, the
line of coast, after having continued nearly an E. by S. direc-*Coast trends*
tion from Cape Formoso for 170 miles, turns abruptly to the
southward along the foot of the lofty Cameroons mountain.

The base of Mount Cameroons occupies a space of nearly
20 miles in diameter, the highest peak, named *Mongo-ma-**Mount*
Cameroons.

* Such a discrepancy as $12'$ in latitude should not be permitted to exist ;
it is to be hoped that one of our merchant captains trading to these rivers,
many of whom are good observers, will take an early opportunity of deter-
mining this point. By means of an artificial horizon on shore, probably the
meridian altitudes of one of the fixed stars for several evenings might be
obtained, the mean of which would not be far from the truth.—ED.

† Capt. Owen, vol. ii., p. 361.

Lobah, being 13,760 feet above the level of the sea, covered with trees of luxuriant growth nearly to the summit ; but one bare brown ridge, running from the eastern side towards the sea, at a short distance appears like lava. The peak of Cameroons stands so boldly above the surrounding pinnacles that the descent seems unbroken, giving to the whole the appearance of one vast mountain rising from a single base, although a conspicuous peak, about 2 miles inland from the nearest part of the coast, named Mongo-ma-Etindeh, rises 5,820 feet.

Rumby mountains.

The more distant Rumby Range, on the contrary, were seen towering in rude and rugged masses, like the tombstones of a past earthquake ; their height must also be considerable, as we perceived them when more than 60 miles distant. The most lofty of this range is 44 miles N.E. of the peak of Cameroons, the intervening space being a plain, with several conical hills rising abruptly from its surface, giving to the scene a novel and extraordinary appearance. Qua Mountain, 64 miles N.W. of Cameroons, is also a stupendous elevation, and was discerned by us from a distance of nearly 80 miles. Most of these are extinct volcanoes, as well as the whole* of Fernando Po, which is immediately opposite. The sea boundary of the Cameroons presents some singular evidences in support of this ; amongst them may be mentioned two rocky cliffs at some distance apart, but which are connected by a gallery perforated at equal distances by a line of holes answering the purpose of windows, resembling the work of an engineer, in the excavation of a fort.†

Ambas.

370. †On the southern side of Mount Cameroons, at the base of the peak, is Ambas Bay and islands, which are described by Captain W. Allen, of H.M.S. Wilberforce, by whom that part of the coast and the Cameroons River were surveyed in 1842. §

* A reflection on the course of these mountains into the interior of the continent, broken into isolated masses like islands in the sea, leads to an interesting geological inquiry, whether the islands of Fernando Po, St. Thomas, Princes, and Anno Bom, are not continuations of this volcanic range, and whether there are not similar submarine elevations in the same direction.

† Capt. Owen, vol. ii., pp. 361 to 365.

‡ Capt. W. Allen, H.M.S. Wilberforce, 1842.

§ See Admiralty plan of Ambas or Amboise Islands, by Capt. W. Allen, 1842. Scale, 2 inches to a mile.

He says, "in the bay of Ambas are three small islands, the *Ambas Bay*. size and capabilities of which are in inverse ratio to their population. The largest, Mondoleh, only half a mile long at the S.E. part of the bay, is high and rocky, but with a level surface of the richest soil imaginable, of decomposed basalt, and the steep sides are clothed with beautiful wood. In 1842 only ten men with their families resided on it, though, if well cultivated, it would probably maintain five times as many. There are three or four springs of water half way up the side of the island, which, though scanty, are said to flow always. The landing is bad, but might be improved. The outer or western island, Domeh or Ambas, is smaller and nearly barren ; the rocky slopes and summit only are clothed with a little brushwood and grass. It is in fact a narrow ridge of rock, elevated at the outer extremity ; but although nature has here provided no means of subsistence, about 300 or 400 people have made it their home. They exchange their fish with the natives of the main land for plantains and yams. They have also many goats and pigs, which feed on the precipitous sides of the island.

*Mondoleh Island.**Domeh or Ambas Island.*

" The only landing place is difficult on account of the rugged *Landing place.* rocks and incessant swell. A good pier, however, might be made with very little trouble. There is only one scanty spring, which, indeed, was dry when I saw it ; the inhabitants *Water.* must therefore catch rain water, and during the dry season get supplies from the main land.

371. " The Island of Bobya, called also the Pirate Island, *Bobya Island.* from the supposed disposition of its natives, is $1\frac{3}{4}$ miles N.W. $\frac{1}{2}$ N. of Ambas; it is even more barren, a mere wreck of a larger island, as the numerous isolated fragments, perforated by the sea, and lying in its vicinity, bear witness of its having been formerly much more extensive. It is probable that it once joined the adjacent perpendicular cliff on the main land, as the structure is similar, and between them there is but a narrow and small channel. The promontory may have even extended to Ambas, with which it is in a line. The progress of destruction is still going on, as enormous fragments of rocks are lying at the north end of the island, which I believe to have fallen since my first visit in 1833. Although this is much smaller than the other two islands, it is swarming with

people, almost every available spot on its rugged surface being occupied by a hut. It is perpendicular on all sides, and the only access to the summit is by clambering up what appears to be the projection of a basaltic dike—a fearful path, passable only for one at a time, and which might be defended by a child. The inhabitants, probably, owe to their impregnable position the bad character they have among their neighbours.

“They are a ferocious-looking though a shy race, but I never heard of any well-authenticated charge of piracy against them. More correctly speaking, their secure position has probably engendered a spirit of independence, and a determination to resist oppression.

*Chief of
Bimbia.*

“The chief of Bimbia complained to me that they would not acknowledge his authority, nor comply with demands which I found were not so just as he alleged.

“These islanders are the principal fishermen of the bay, which in fine weather they cover with their light canoes. This enables them to obtain by barter from the main land, with which they are in constant communication, the scanty clothing they require, and supplies of yams, plantains, &c.

“They were at first very much alarmed at our appearance, believing we came to execute the threats of King William of Bimbia; but we soon became on better terms, and I landed several times, and climbed up to their curious village. At the summit of the path the island ridge is not 10 feet across.

*Anchorage in
Ambas Bay.*

372. “The anchorage is excellent in all parts of the bay as to holding ground and depth; and although it is a lee shore, and there is an incessant swell, I believe it never blows home so as to endanger ships, and the landing is not so bad as at Ascension. The prevalent wind is S.W., to which the bay is quite open; and the worst months are, I believe, July and August, but there is shelter behind Mondoleh. Wood, vegetables, and live stock may be had in abundance, the latter at a fourth part of the price demanded at Fernando Po. Excellent water can also be had near Kieh, but only at low tide, as the water gushes out at the foot of a rock. By excavating, however, above high-water mark, a very convenient watering-place might be made.

Water.

373. “The disadvantage of being a lee shore is amply compensated by the purity of the sea breeze, which blows across the

Atlantic. The adjacent mainland, too, is nearly devoid of mangrove and swamp ; and as the land wind passes over the lofty mountain, it is rendered cool and refreshing. Indeed, from the peculiarity of its situation, and from local circumstances, I think the Bay of Ambas will be found to be the most healthy position on the coast of Africa.

"Although my visits were during part of the rainy season, we seldom had more than a shower or a tornado about once in twenty-four hours. The rest of the day the weather was very beautiful, and we were some days without rain."

On quitting the anchorage in Ambas Bay,* and continuing near the coast, a series of points are passed, which indent the shore into small coves, more or less deep and sheltered.

374. The entrance of the River Bimbia or Little Cameroons follows. It may be known by Nicoll Island, which is situated to the N.E. of the most southern point of the land at the foot of Mount Cameroons. *Nicoll Island.*

Nicoll Island is half a mile from the shore, and on the western side of the mouth of the Bimbia River. Between it and the shore on its western side there is a sheltered anchorage off King William Town, but which has only $2\frac{1}{2}$ and $2\frac{3}{4}$ fathoms *King William Town.* depth, and there is a watering-place about a mile to the northward.

The River Bimbia, about 2 miles wide, here falls into the sea. Its channels are obstructed by a bar, on which there is only a depth of 13 feet, but within there are $4\frac{1}{2}$ to $6\frac{1}{2}$ fathoms.† The anchorage is perfectly safe, but the radiation from the mountain causes the heat to be very oppressive. The magnificent amphitheatre which forms the eastern side of Mount Cameroons is crowned with numerous villages, the inhabitants of which mostly follow the palm oil trade.

From the River Bimbia to Cape Cameroons the distance is 14 miles S.E., but the shore is rounded towards the sea ; it is low and covered with mangrove, and is intersected by two creeks, Matumal and Mordecai, which connect the Bimbia with the River Cameroons. *Cape Cameroons.*

375. The River Cameroons is an estuary into which several streams discharge their waters. That branch which comes *River Cameroons.*

* Description Nautique, p. 157.

† Allen, in London Geographical Journal for 1843, pp. 15 & 168.

from E.N.E. appears to be the most considerable, and has been named by the Portuguese the Cameroons River, from the abundance of shrimps found in it. Two other rivers debouche in the E.S.E., and the Malimba Creek inside Suellaba Point ; these are the Donga and the Quaqua, and there is also the Jamoon.*

Cape Cameroons. The entrance to the Bay of Cameroons is 5 miles wide from N.N.W. to S.S.E. ; it is bounded to the north by Cape Cameroons, a land of middling height, which can be seen 12 miles off. The southern head is called Suellaba Point, and is nearly of the same height.†

Dogshead Shoals. Off each of these points are banks which narrow the channel ; its breadth in the most contracted part is about $1\frac{1}{2}$ miles ; and its greatest depth 12 fathoms. Off Cape Cameroons the 3 fathom edge extends $1\frac{1}{2}$ miles, when the shelf suddenly drops into 8 and 10 fathoms ; great caution, therefore, is requisite as the lead gives no warning. The banks to the southward extend N.N.W. from Suellaba Point $3\frac{1}{2}$ miles, and are named the Dogsheads ; they almost always break with a noise, and can be seen from afar.

False Cape Cameroons. 376. A ship from the westward, bound to the Cameroons River, should not approach the low land of Bimbia nearer than $5\frac{1}{2}$ fathoms ; she should run to S.S.E. until the false Cape Cameroons, which is the most southern convexity of the land between the Bimbia and the Cameroons Rivers, bears N.E. $\frac{1}{4}$ E. She must then steer for Cape Cameroons, keeping in $4\frac{1}{2}$ to $5\frac{1}{2}$ fathoms muddy bottom. At 6 miles from the Cape she will have from $5\frac{1}{2}$ to 7 fathoms, and when at 2 miles from the land she must keep in that depth along it, until Cape Cameroons bears N.W. $\frac{3}{4}$ W. ; she should then steer for Malimba Point about E. $\frac{1}{2}$ N., until Green Patch Point, which is the N.E. point of Matumal Creek, bears north, when she may anchor in $5\frac{1}{4}$ fathoms muddy bottom, and send up the river for a pilot to take her over the bar. This bar or bank, in the middle of the bay, is formed by sediments from the river.

* See Admiralty Plan of the River Cameroons and Ambas Islands, by Captain W. Allen, R.N., 1842. Scale, half an inch to a mile. No. 1456.

† Allen, in London Geographical Journal for 1846, p. 255.

In opening from False Cape to Green Patch Point, should the lead give less than $4\frac{1}{2}$ fathoms, and not a muddy bottom, the ship must be kept more to the southward.

The banks are formed of hard sand ; those on the north side *Mark to clear shoals to the north.* may be avoided by keeping the north side of Fernando Po open of False Cape Cameroons.

377. The Dogshead Banks are steep-to ; on their N.W. side, $\frac{1}{2}$ a mile from them, will be found from 10 to 12 fathoms ; care should therefore be taken not to approach them too close, on account of the sudden change in the soundings, which increase *Soundings.* rapidly from the westward to the eastward in this passage. The soundings will sufficiently show the action of the current, and the changes necessary to be adopted in the course.

The Dogsheads are very dangerous for vessels caught in the *Dogsheads dangerous.* passage by the ebb tide, which rushes with great velocity over these shoals, especially at spring tides.

Should a ship be obliged to anchor outside, she may ride *Anchorage outside Cape Cameroons.* easy anywhere in $6\frac{1}{2}$ fathoms, and be out of the strength of the tide.

In the event of a boat being sent up the river for a pilot from the anchorage south of Green Patch, it should be directed to keep along the northern shore for 6 or 7 miles until it passes the mouth of Mordecai Creek, when, if there are any vessels there, their masts will be perceived off King Bell's Town, which is 6 or 7 miles above Malimba Point, on *Malimba Point.*

carried on for many years with the settlers, who from their activity in collecting palm oil, and their intercourse with Europeans, have become a very large and important community, possessing such a degree of civilization as to render them highly interesting, and to prepare them for becoming a connecting link between the civilized Europeans and the less advanced natives of the interior.

River Cameroons.

Captain Allen* proceeded up the river 40 miles from the sea, but he found that the main stream of the Cameroons continued only to 8 miles above King Bell's Town and less than 20 from the sea, when it branched off east and west. At 50 miles beyond the point reached by Captain Allen, further navigation is said to be obstructed by rocks. The River Qua-qua was not explored, but Captain Allen's pilot described it as of less magnitude than the Wuri or Dualla (the native names of the Cameroons above King Bell's Town), and obstructed by rocks at about the same distance from the sea. He said the king of all the Qua Qua country resides 80 miles up the river, at a place called Longassi.

River Qua-qua.

Wuri or Dualla.

Longassi.

At the anchorage† off King Bell's Town, high water at full and change is at 6 o'clock, and the rise is about 6 feet ; the water is fresh at low water.

378. The seasons‡ and climate on the coast at the mouths of the Palm-oil rivers, are thus described :

Rains.

The rains generally commence in the latter end of May or beginning of June, and gradually increase with strong S.S.W. and S.W. breezes during July and August. Towards the end of September they gradually assuage. In July and August heavy squalls frequently prevail ; and in these months the wind rarely shifts from S.W. more than a point or two to the southward ; the rain is incessant, except for an hour or two about noon.

Tornadoes.

In October the weather becomes more settled, with light land winds, and occasionally showers of rain with moderate sea breezes in the daytime. In November the tornadoes commence, violent at first ; they continue, when the Harmattan is not blowing, until the month of May ; they come from N.E.

* Allen in London Geographical Journal, 1843, p. 12.

† Description Nautique, p. 170.

‡ Purdy's Ethiopic Directory, p. 321.

and east, and off the Old Calabar from S.E., blowing directly on shore. In December, January, and February is the fine season ; sea and land breezes blow, with a good deal of calm and hot sultry weather.

Sometimes, however, the Harmattan blows night and day for days together, about this season.

The Harmattan has been defined to be the trade wind *Harmattan*. blowing over the continent ; during this season the smokes prevail, which are so dense that nothing can be seen more than a cable's length from the ship, and vessels approaching the coast have no resource but to anchor. In March, April, and May the weather is clearer, and occasionally, especially after a tornado, very clear, when the high lands of Fernando Po and Cameroons may be seen for 100 miles ; but even during these months a ship may get within 7 or 8 miles of the land without seeing it. The nights at this season are very fine.

The palm oil season is from March to September, when it *Palm oil*. declines, and is out of season, but in fact it may be and is obtained all the year round.

Ships lie in the rivers at all seasons ; they should be housed over with palm thatch, and have their holds thoroughly cleaned, particularly about the bilges and well, and if possible there should be ventilation along the bottom under the cargo ; stoves should occasionally be lighted, and the whole ship kept as dry as possible.

It has been suggested that exercise* on shore is conducive to health.

The water in the rivers is very bad, and stock is scarce and dear ; ships should therefore be provided with both.

The general direction and strength of the current is *Currents*. easterly, one mile an hour throughout the year, excepting during the Harmattan, when the direction is changed to W.S.W. ; a heavy tornado will sometimes change the set of the current for a day or two. Vessels therefore bound to the Bonny, if overtaken by night, should either anchor or work to windward until the morning ; for if once to leeward, especially during the rains, a heavy sailing ship will have great difficulty in getting again to windward.

* Commander Strange, H.M.S. Archer, Remark Book.

Soundings.

A rough general rule for the soundings on the coast from Cape Formoso to the Old Calabar is, to allow one mile off shore for every fathom of water, thus ten fathoms will generally give a distance of as many miles ; it is almost unnecessary to add that the lead should be constantly used in the neighbourhood of the land here, as well as on all the other parts of the coast.

Anchorage.

A ship may anchor off this coast at all times of the year, but never in less than 7 fathoms except in case of necessity, because, in less than that depth, the swell begins to assume the character of rollers, and causes the ship to ride very uneasily : indeed 10 fathoms is a better depth, so that the anchor may be weighed and stowed before making sail.

*Vessels bound
from the Bight
of Biafra.*

Ships bound from the Bight of Biafra, should, if possible, pass S.W. of Fernando Po, make all the southing they can, and, passing (as the wind permits) on either side of Princes Island, cross the line. On the east side of Princes Island the current sets to the southward, but to the N.E. on the west side of that island. Having passed Princes, try to cross the line, unless the ship lies up as high as W.N.W. South of the line the equatorial current runs to the westward, and as westing is made the wind comes gradually round to S.E. This is the old way of making the passage from the Bights to England or to Sierra Leone, and there is no doubt that it is generally preferable at all times of the year to keeping north of the line, and struggling with easterly current and winds more or less adverse.

On the subject of currents, as affecting the mode of making passages generally on these coasts, the seaman will do well to study the current chart of the coast of Guinea, constructed by Captain A. T. E. (now Admiral) Vidal (No. 1842), published by the Admiralty.

In 1854, the Pleiad, a vessel belonging to Mr. Macgregor Laird, commanded by Dr. Baikie, R.N., succeeding in exploring about 250 miles of the River Tchadda, a tributary to the Niger ; showing the accessibility to trade of a large tract of country, without that sacrifice of life usually attaching to African expeditions.

AFRICAN PILOT.

PART I.

APPENDIX No. 1.

WESTERN COAST OF AFRICA.—BONNY AND OLD CALABAR RIVERS.

By Mr. VALENTINE F. JOHNSON, Acting Master of H.M.S.
Philomel, July 1856.

SINCE the buoys were placed in January 1854, to mark the channels leading into the Bonny river, it has been found that the Balour red nun buoy could not be distinctly made out from the outer or fairway beacon buoy, which naturally caused anxiety to strangers entering the river.*

To remedy this, Mr. G. H. Witt, a trader on the river, has caused two marks to be erected on the pitch of Rough Corner, one 55 feet and the other 20 feet above high water ; they are 63 yards apart, bear N.E. $\frac{1}{4}$ E. and S.W. $\frac{1}{4}$ W. from each other, and are whitewashed, showing a good contrast with the dense foliage of Rough Corner, and they can be seen distinctly in any reasonable weather from a distance of 10 miles to seaward. The high mark bears E. $\frac{1}{4}$ S. from Fouche point, N.E. $\frac{1}{4}$ E. from the Balour red nun buoy, N.E. $\frac{1}{2}$ N. from the Spit buoy, and N.E. b. E. from the Fairway buoy. Vessels, therefore, getting under weigh from the Fairway buoy or its vicinity, must bring these marks in one N.E. $\frac{1}{4}$ E., which will carry them in clear of all danger until past the Balour red nun buoy (which should be left on the starboard hand) ; then follow the directions formerly given.

As the Balour red nun is sometimes washed away, the above *Balour buoy*. marks are of the greatest importance, and it is to be hoped that vessels in the river will keep them in repair ; and as Liverpool merchants have the whole trade of this locality, they

* See Admiralty chart of Bonny and New Calabar rivers, No. 622, scale
 $m = 1 \cdot 0$ inch.

should, for the safety of their property, replace any buoys that may from time to time be washed away ; the expense would be trifling in comparison with the risk to which their vessels are liable in navigating this river without those necessary marks. The Black nun buoy in the Man-of-War channel is also sometimes washed away ; a vessel, therefore, going out should sound and have a boat to mark the passage.*

The following directions from the Bonny, to and up the Old Calabar river, are given by Mr. G. M. Lewis, commanding the ship *Pytho*.

Old Calabar river.

When well clear of Bonny bar steer E.S.E. until the trees along the shore have nearly disappeared below the horizon, or until the depth is 15 or 16 fathoms ; then steer E. b. S., when the water will gradually shoal from 15 to 12, 10, and 8 fathoms on a mixed bottom of black sand and mud.

As Old Calabar river is approached, the bottom becomes hard and of bright sand, until past the breakers, when it will be muddy.

Caution.

Care must be taken not to approach Tom Shots point, or the western land of the river entrance, nearer than that the trees upon it are barely visible from a height of 24 or 26 feet above the sea, and should the water shoal to $6\frac{1}{2}$ fathoms on hard ground, stand out until it deepens to 8 fathoms ; by no means come into a less depth than $6\frac{1}{2}$ fathoms over any description of bottom whatever, until the East head bears N.E. or Backasey gap N.E. $\frac{1}{2}$ E. ; the vessel may then stand for the East head into 5 fathoms, muddy bottom, when, if necessary, anchor and send a boat up for a pilot.

Attention to the above remarks will take a vessel clear of the breakers, and also of the knoll at their outer end, on which the depth is only $2\frac{1}{2}$ fathoms, and a very heavy roll of sea.

Fair way.

Having brought the East head to bear N.E., or Backasey gap N.E. $\frac{1}{2}$ E., steer North, gradually decreasing the depth to 5 and 4 fathoms (stiff mud), until the two remarkable umbrella trees on Tom Shots point are seen bearing N.N.W., when steer for them a little open on the port bow ; directly the

* The Black beacon buoy placed in the chart in 5 fathoms does not exist, and the Red nun buoy, although in its proper position, is so small as not to be seen when there is any ripple on, or until close to.—*Remarks by Commander J. H. Cave, H.M.S. Ardent, December 1858.*

breakers are seen, keep close along them, making due allowance for the tide, which sets strong from N.E. to S.W. right across the breakers, or *vice versa*, which will lead over the bar in $3\frac{1}{2}$ and 4 fathoms water.

To pass between Parrot spit and the Middle patch, run in along the western side of the river until Tom Shots point and the point to the south-west of it are in one; then steer across about N.N.E. $\frac{1}{2}$ E. or N.E. by N. for the Little Qua river, keeping it open on the starboard bow until the low point of Green Patch bears N. by E. or N. $\frac{1}{2}$ E., when steer directly for it, until Tobacco head is seen just clear of Parrot island, about N.N.W.; this latter mark will then lead over the Qua flats in $3\frac{1}{4}$ fathoms, and close past Parrot island, *Qua flats.* the depth increasing to 5, 6, and 7 fathoms. When Seven Fathom point comes well open of James island steer for the former, taking care to keep Parrot island a sail's breadth open of James island, which will lead over James flats in nearly 3 fathoms water. Having cleared James flats steer for the Cross river, *James flats.* and for the Cross river creek when the upper reach of the Calabar river is well open, being careful not to shut in the Cross river until Old town* mission house is a ship's length *Old town.* clear of a point on the north side of the river, or until Old town is just in one with the same point; then steer for the tall trees, which approach closely and run up along that shore until Henshawe town landing-place begins to close with the trees to the eastward of it; the vessel may then proceed towards Duke town, to any position that may be selected. These directions reversed will answer for going out of the river.

There is good anchorage in any part of the river in the *Anchorage.* fairway in 5 fathoms water, when clear of the bar flats, &c., as the soundings deepen very fast after passing those dangers.

Tom Shots is a long low sandy point, covered with low *Tom Shots* bushes, forming the western point of the river entrance. The *point.* point to the south-west of it is slightly elevated above the sea and covered with high trees, which give it a rather bluff appearance. A small bay separates this from Tom Shots point.

The east head is, in fact, no head at all, but that portion of the land trending from the south towards the east.

* Old town was destroyed by H.M.S. *Antelope*, in the spring of 1855 but the ruins can be made out. The Mission house stands a little to the south-east of Old town, and being white is sometimes the most conspicuous.

Backasey gap in the trees, is the entrance of a creek a short distance to the eastward, and from being easier discerned is a much better mark than East head.

Qua rivers.

Little Qua river is the third, and Great Qua the fourth river, on the eastern side of the Calabar river from the entrance.

The Green patch is a portion of land between the Great and Little Qua rivers, covered with very light green bushes. Its north point, which is low, is the south point of Great Qua river entrance.

Parrot island is round, in the middle of the river, and covered with high trees.

Tobacco head is some distance above Parrot island, and when seen in position as a leading mark, appears in shape something like a boat's rudder.

James island is on the eastern side of the river, separated from the land by a deep creek; all the land about here is covered with high mangrove trees.

Seven Fathom point is also on the eastern side of the river, and is covered with high straight mangrove trees.

Cross river is a large river directly opposite Seven Fathom point.

Cross river creek is on the same side, and a short distance above Cross river.

The Tall trees are high mangrove trees just above Cross River creek, and are in contrast with the low trees above them.

Duke town.

Duke town is the principal place on the river, and where vessels anchor for the purpose of trading. It stands on the left bank, between two high hills; that to the westward of the town, and upon which the Duke mission premises are built, is named Mount Pisgah, and is an excellent mark at night, for, when abreast it, it is time to stand across towards Duke town.

Henshawe town.

Henshawe town is a little to the westward of Duke Town mission house, and is situated at the back of a hill; the landing place used as a mark is a road of bright yellow sand, on the side of the hill.

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